ENGINEERING NEWS-RECORD

W. A. Bugge—this year's boss of AASHO p. 54

A McGRAW-HILL PUBLICATION

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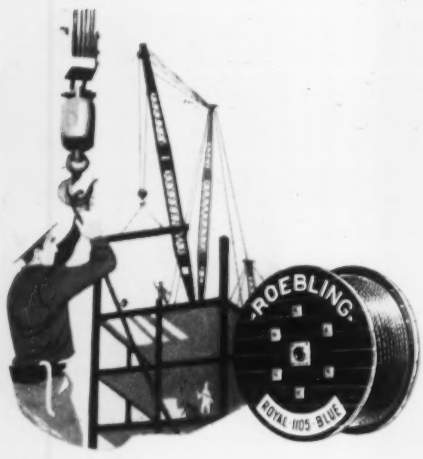

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V. L. Greenwell, Partner
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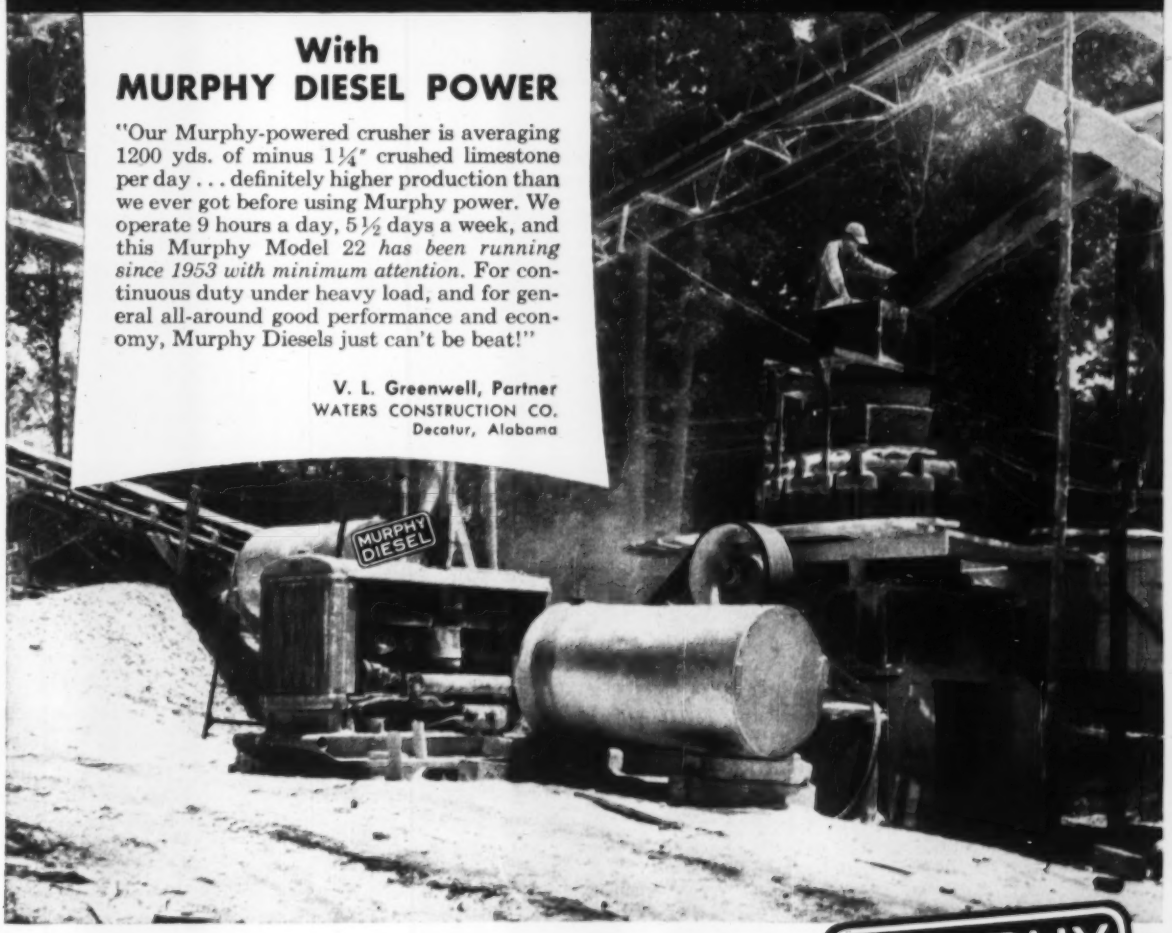

When it comes to heavy-duty power for aggregate plants, shovels, draglines, generators, pumps, compressors, etc., Murphy Diesels are recognized throughout the construction industry for their dependability, long life, trouble-free service and economy that's unmatched by any other engine of comparable size. Why don't you put the many exclusive advantages of Murphy Diesel engines to work on your next job? Your Murphy Diesel Dealer can tell you how they'll make more money for you.

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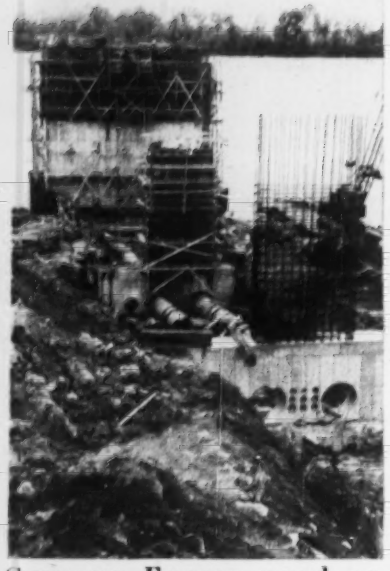
Murphy Diesel engines and power units are available in sizes from 96 to 264 H.P. with engine speeds of 1200 and 1400 rpm. "Packaged" generator units are available with capacities ranging from 64 to 165 K.W.

Symons FIELD REPORT...



Symons Forms used on Ohio River Intake Job...

60,000 square feet of concrete forming went into this job constructed for the city of Henderson, Kentucky. The wall started at elevation 317 (sea level elevation) or 21 feet below the river pool stage and when completed was topped at 385 or 47 feet above the water.

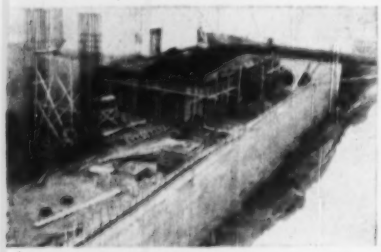
15,000 square feet of Standard Symons Wood Frame Forms were used, in sizes 2' x 4', 2' x 6' and 2' x 8'.

George Ryan, Vice President said, "Even in the eight foot lengths our Symons Forms are easily carried by one man. Another feature which we have found helpful is the ease of removing a panel at any place in a wall to clean keyways and straighten reinforcing steel. This has saved us a lot of time."

Three piers for an all access bridge to the intake structure were also formed with Symons Forms. Part of the project involved an extension of the Henderson power plant.

Symons Forms can be rented with purchase option, all rentals to apply on purchase price. Symons Clamp & Mfg. Co., 4265 Diversey Avenue, Dept. L-6, Chicago 39, Illinois.

Roy Ryan Sons Company, Inc., Evansville, Indiana
General Contractor



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EIGHTY-SECOND YEAR OF PUBLICATION

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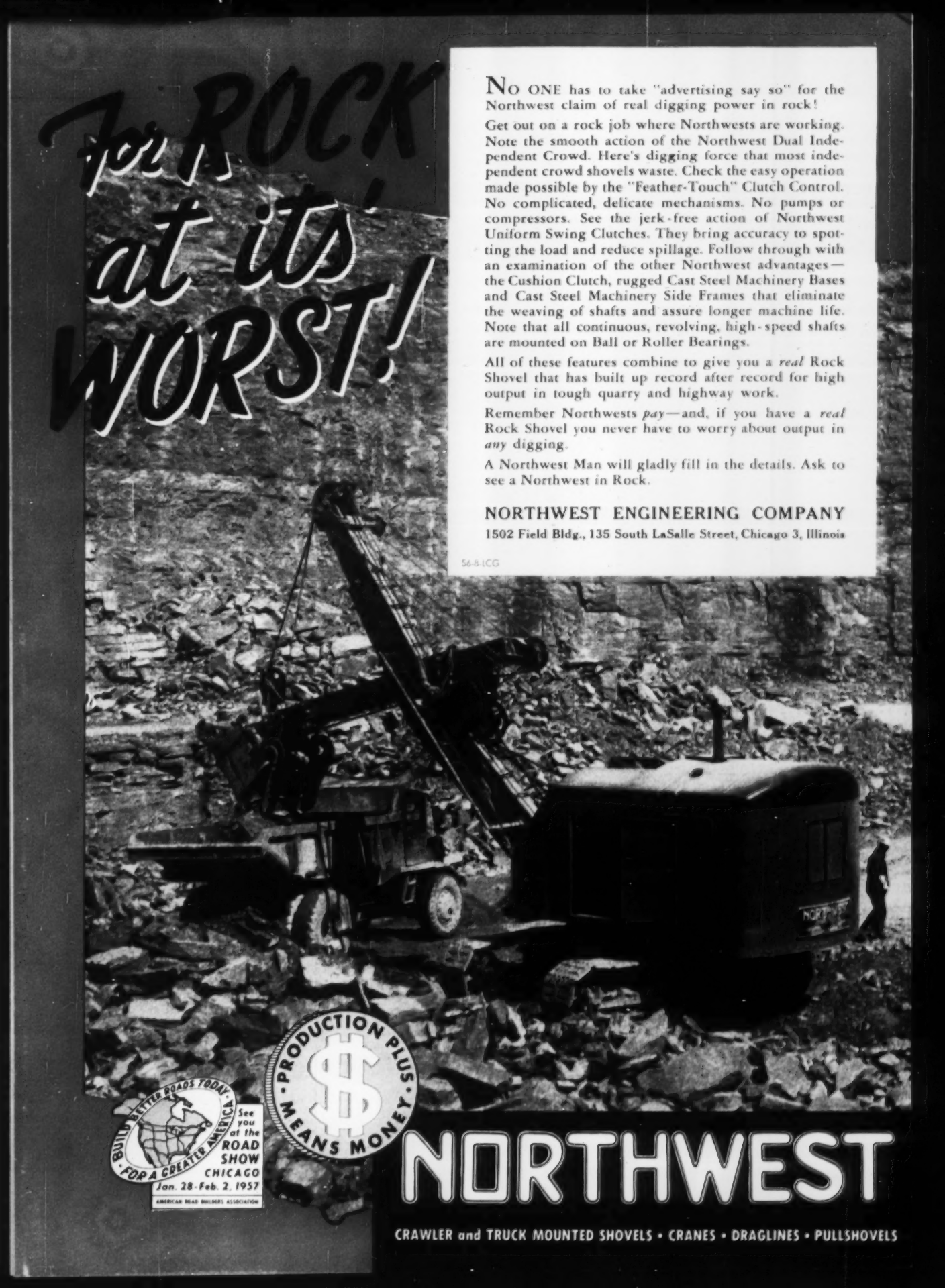
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3. WHEEL BEARING LUBRICATION: Use *Texaco Marfak Heavy Duty.* It seals out dirt and moisture, seals itself in—assuring safer braking, longer bearing life. No seasonal change required.

4. CRAWLER TRACK LUBRICATION: Use *Texaco Track Roll Lubricant.* It gives effective, lasting protection against dirt, water and wear.

5. AIR COMPRESSOR LUBRICATION: Use *Texaco Regal Oil R&O.* It keeps systems clean and efficient. Also ideal hydraulic fluid—prevents rust, sludge and foam.

6. ROCK DRILL LUBRICATION: Use *Texaco Rock Drill Lubricant EP.* It protects against wear ... prevents rust whether drills are running or idle.

Enjoy the benefits of the Texaco Simplified Lubrication Plan on your next project. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write:

The Texas Company, 135 East 42nd Street, New York 17, N. Y.

Hungry Horse Dam and Power Plant, Hungry Horse, Montana. Dam is 564 feet high, 2,115 feet long at the crest and contains more than 3,000,000 cu. yds. of concrete. Four generator units have a combined capacity of 285,000 kilowatts. Texaco Simplified Lubrication Plan aided on-schedule completion.

TEXACO REG. T.M.

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BUREAU OF RECLAMATION PHOTO

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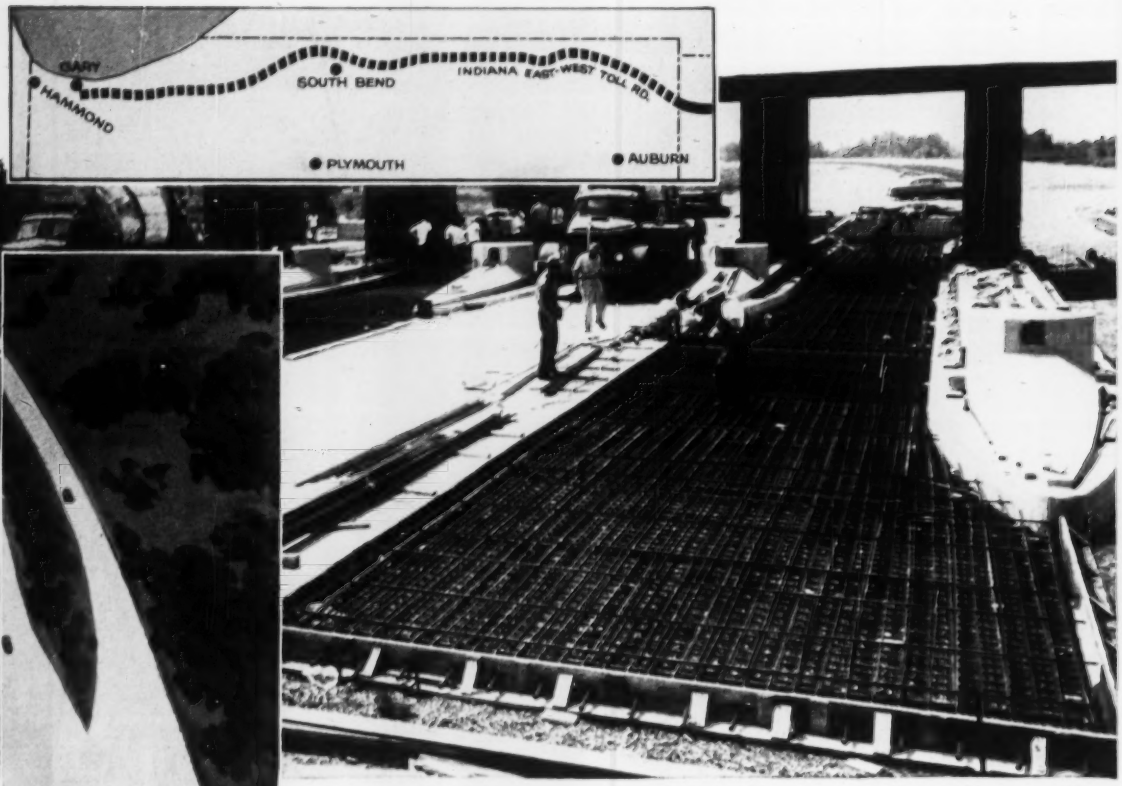
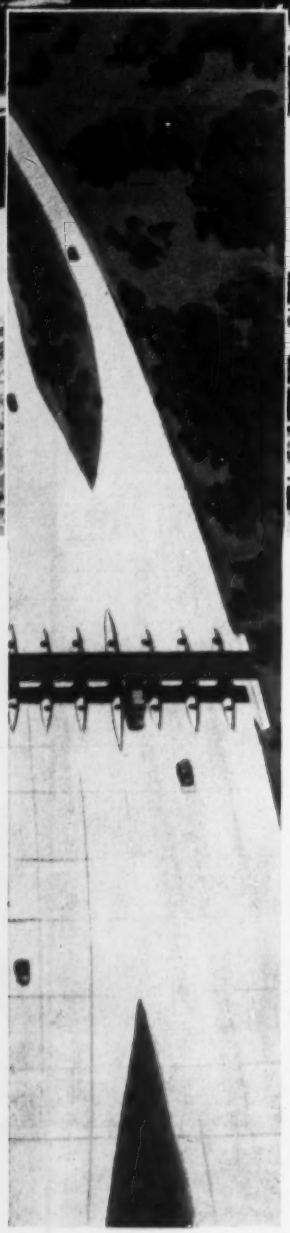
FOR ALL CONTRACTORS' EQUIPMENT

NEW...Snow-and-Ice-Free Interchanges on Indiana's East-West Toll Road





with Steel Pipe Snow Melting Systems

"Really *new* and *important*" . . . "an *innovation* in highway construction" . . . are some of the things said about the Steel Pipe Snow Melting Systems installed at gates and interchanges on the recently opened Indiana East-West Toll Road. That they will add immeasurably to bad weather safety factors and increase the traffic handling capacities at these vital points of entry and exit is the opinion of highway engineers.

With the forthcoming expansion of the nation's highway systems, roadbuilders in the snow belt should give serious consideration to the advantages of automatic snow and ice melting in highway construction . . . for interchanges, bridge floors, elevated ramp sections, over-passes, and other exposed road sections where conventional control methods may be both costly and inadequate.

For such installations, *Steel Pipe is first choice*, as in this Indiana road, the elevated approach to the New York Port of Authority bus terminal, the Staten Island Ferry Ramp, and many others. Yes, steel pipe is the most widely used pipe in the world, for snow melting, radiant heating, plumbing, fire sprinkler systems, power, steam, air transmission and electrical raceways.

Write today for free booklet "Steel Pipe Snow and Ice Removal Systems."

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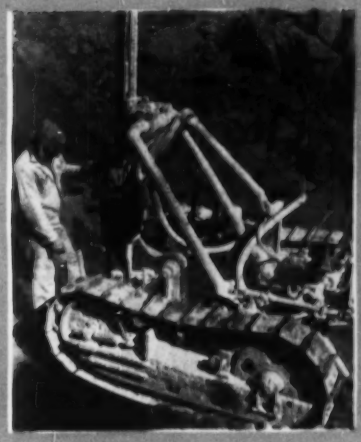

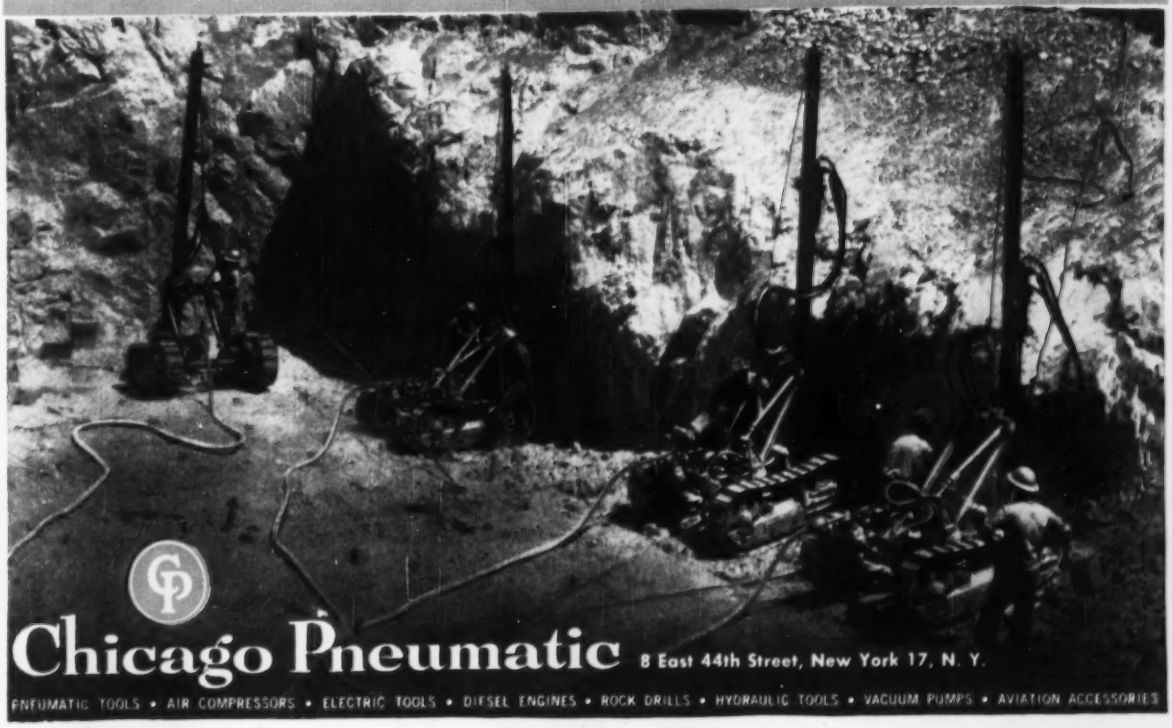

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Construction machinery manufacturers have an exacting task when it comes to painting the equipment they build. Units are too large or too awkward to handle on a conveyor, or in a dip tank. Often components are not properly prepared for finishing, with a resulting patchy or shop coat appearance.

At today's premium prices for equipment, purchasers expect top appearance in the machines they buy.

If you are not satisfied with the appearance of the equipment you build, let TOUSEY make a survey of your finishing operation. Careful attention to this phase of manufacture can result in a better competitive sales position—lower maintenance cost to the purchaser—and more satisfactory customer relationship.

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Polyethylene film for bond-breaking

speeds tilt-up construction

Tilt-up slabs are virtually seamless when made with polyethylene membranes. Curing is greatly aided and work speeded by this lightweight film. Data courtesy of **Visking Corp.**, Terre Haute, Indiana.

Faster fabrication, more perfect finish are important to the success of tilt-up slab construction. New techniques involving the use of bond-breaking film of BAKELITE Brand Polyethylene plastic offer savings in time and unusually smooth surfaces.

Here's the method. The base slab is flooded with water and the polyethylene film is spread. Push brooms smooth out any wrinkles. Reinforcing steel and forms are positioned, no special care being required to protect the tough film. After pouring and finishing the concrete, the slab is covered with a second film. This method eliminates need for curing compound or further flooding. Completed slab is easily parted from base, set aside until needed.

Prefabricated roof sections, walls or other shapes greatly benefit from the strong, even cure possible with Polyethylene film used as a moisture barrier and a bond-breaker. Its lightweight, wide range of widths make it easy to work with. You can find out more about its applications in construction projects by contacting your supplier or writing Dept. TG-49.

It pays to specify film made of...

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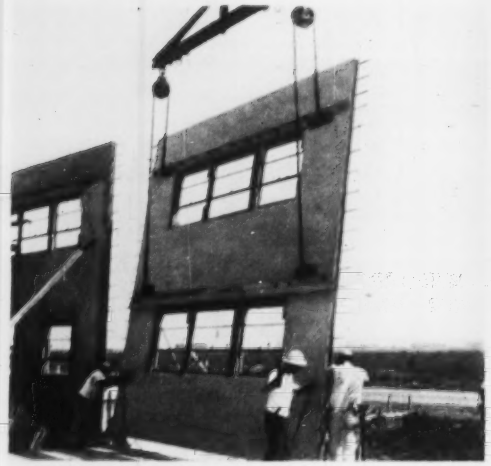

PANEL with large window areas

WAREHOUSE

DANIEL CONSTRUCTION CO. PHOTO

Tilt-Up Costs Go Down

...with SUPERIOR "Pick-Up" Inserts, Brace Anchors, and Braces

When an outstanding Tilt-Up job rates an article in a construction publication you can be almost certain that SUPERIOR products were used. The reason is simple. SUPERIOR, as the pioneer in this field, developed designs that were thoroughly tested both in the laboratory and the field to assure safety with economical prices and low application costs.

These "Pick-Up" Inserts, Brace Anchors, and Adjustable Braces have been used and proven on literally thousands of projects, not a few of which were unique in design. With a background of such experience, the recommendation of our engineers as to location and types of Inserts and Anchors is reliable and valuable.

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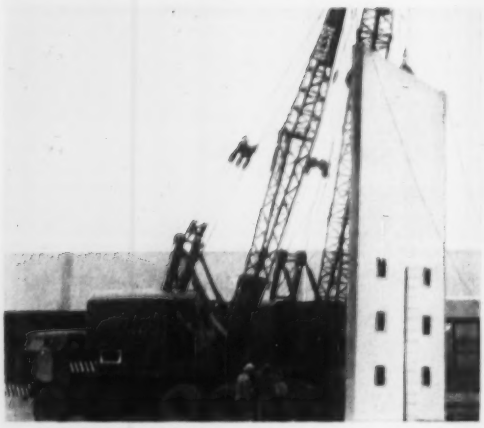
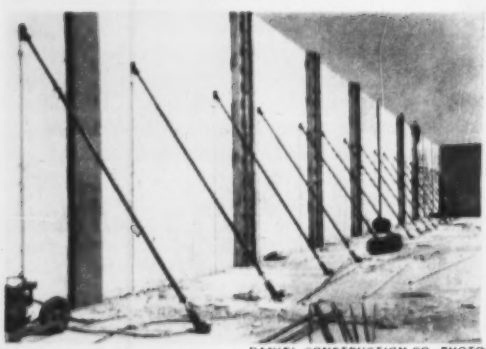
For further details request a copy of Bulletin TU-3



57 TON SLAB being positioned



DANIEL CONSTRUCTION CO. PHOTO

ADJUSTABLE BRACES used for quick and easy alignment of panels

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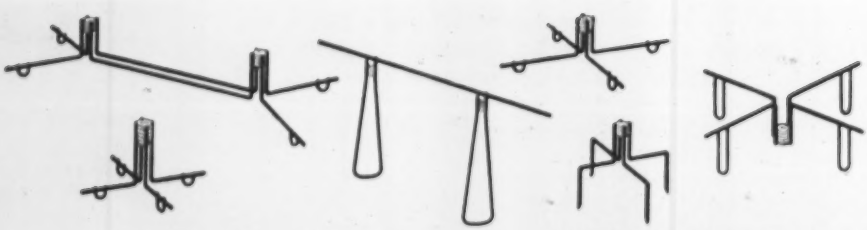


SUPERIOR "PICK-UP" INSERTS . . .

ANCHORS FOR BRACES . . .

ADJUSTABLE BRACES

Reader Comment

Computing Methods

SIR—The following is a method for manipulating the scales of a slide rule to compute very quickly the deflection angle from the T. S. to all required points on a spiral.

Assuming a spiral of the property

$$\phi x = \left(\frac{Lx}{Ls}\right)^2 \frac{\Theta s}{3} - C$$

where: ϕx = deflection angle for point x (minutes)
Lx = length along spiral from T. S. to pt. x
Ls = spiral length
Θs = spiral angle (minutes)
C = correction—negligible for flat curves

Assume the form

$$\phi x^{1/2} = \frac{Lx}{Ls}\left(\frac{\Theta s}{3}\right)^{1/2}$$

Set $\frac{\Theta s}{3}$ on A scale indicating $\left(\frac{\Theta s}{3}\right)^{1/2}$

Divide by Ls using C scale
Multiply by Lx using CI scale
Read deflection on A scale

We have found the method to be particularly advantageous when a large number of deflections need to be computed in the field. The value $\frac{\left(\frac{\Theta}{3}\right)^{1/2}}{Ls}$ being constant only a single movement of the CI scale is required for each deflection.

Although this method may be quite generally known, it has been unknown to the many engineers to whom we have shown it and has been accepted with enthusiasm by them.

FRANCIS D. PATOTA
John Granata Compania Const. Elmhurst Ciudad Trujillo, Dominican Republic

Engineer Manpower

SIR—The problem of the engineer shortage which faces our country today was rather thoroughly discussed in the Nov. 8 issue of ENGINEERING NEWS-RECORD. It was correctly described as engineering students are being attracted mainly into the field of electrical en-

Engineering News-Record welcomes expression of opinions from its readers. Comment should be as brief as possible and pertinent to subjects of current construction importance. Letters should be addressed Editor, Engineering News-Record, 330 W. 42nd St., New York 36, N. Y.

DRAFTING TRENDS

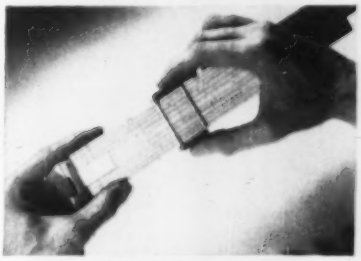
The trend is to Christmas Gifts he can use

Christmas gift lists are growing longer every year as new friends, relatives and young people are added. The problem of picking suitable gifts multiplies with every new name.

During recent years the trend has increasingly been to practical gifts. A useful present is appreciated all year long and is a constant reminder of the thoughtful person who gave it.

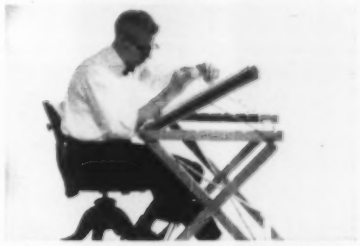
What engineer or draftsman wouldn't appreciate top-quality, *new* professional equipment for his office or home? And what could be of more value for the high school or college student than a set of quality drawing instruments and other basic tools for a promising career?

Here are four among the many popular Post Christmas gift suggestions. Each is built for a lifetime of service.



Versalog Slide Rule

Reduces error hazards, requires fewer settings, gives unrivaled accuracy. R1 and R2 scales determine square roots with four times the accuracy of conventional A and B scales. Other innovations include: New end zone designations of log and log log scales, a fourth LL scale for increased range, color coded scales. Made of seasoned, laminated bamboo.



Adjusto Drawing Stand

Stand for drawing boards up to 24" x 36". Ideal for friends with home workshops. Made of well-seasoned, highly-finished, select hardwood. Folds flat for storage. Joints have easy-action, heavy gauge bolts with self-locking nuts. Board rest adjustable to eight different angles.

Custom-Master Drawing Instruments

Made of high nickel alloy content, tooled by master craftsmen at Post's Bavaria, Germany, factories. Weight and balance of each instrument meets highest precision standards. Quality Swedish steel used exclusively in pen parts. Combination Big Bows and a wide range of sets are available to meet specific requirements.

Dazor Lamp

Versatile lamp with soft, glareless, shadowless light. Change light location, direction and intensity with a touch of the finger. Patented *floating* Dazor arm stays put in each new position. Available in four bases: Desk, Pedestal, Universal (clamp or screw-on) and Bracket model.

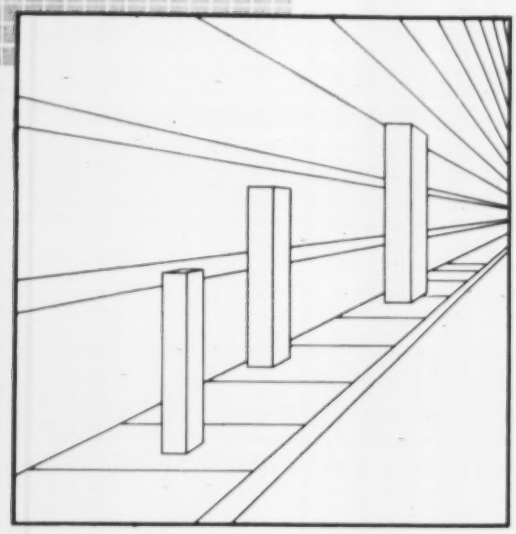
These are only a few of the many practical Post gifts you can give this Christmas. For more information, see your Post dealer or write today to the Reader Service Division of Frederick Post Company, 3656 N. Avondale Avenue, Chicago 18.

POST

SENSITIZED PAPERS & CLOTHS • TRACING & DRAWING MEDIUMS • DRAWING INSTRUMENTS & SLIDE RULES
ENGINEERING EQUIPMENT & DRAFTING SUPPLIES • FIELD EQUIPMENT & DRAFTING FURNITURE

ARKWRIGHT ODDITIES

Test your "perspective powers" by selecting the largest rectangular column in the accompanying figure. See answer below.



You Can See The Difference When You Use Arkwright Tracing Cloths

Drawings look sharper, cleaner — and *last longer* — when you use Arkwright Tracing Cloths. Here's why.

1. There are no pin holes, coarse threads or other imperfections to mar your workmanship. Arkwright's flawless finish prevents blobbing and feathering . . . assures fast, accurate inking.

2. There are no surface oils, soaps or waxes to dry out. Arkwright's special quality-controlled processing creates *permanent transparency* . . . eliminates discoloring or brittleness. Made to meet rigid government specifications, its durable finish guards against fraying, tearing or curling.

3. Even after repeated erasures, Arkwright's superior working surface produces sharp, clean drawings . . . makes every detail stand out in its proper perspective. In the simple perspective drawing shown above, all of the rectangular columns are *equal* in size.

You're always right when you ask for the rolls with the blue line that identifies "America's Standard". Write for samples of Arkwright Tracing Cloths today. Arkwright Finishing Co., Industrial Bank Building, Providence, R. I.

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AMERICA'S STANDARD FOR OVER 35 YEARS

. . . Reader Comment

gineering, with some decrease in students entering mechanical engineering but a greater decrease in numbers of those entering civil engineering training. This is not a desirable situation as in a field so broad as ours there are many opportunities and many unfilled positions, positions which only the trained civil engineer can fill.

Apparently some improved means must be found to sell our own profession to young people.

Our basic problem is to induce high school graduates to enter the engineering college. It is well known that without adequate preparation in mathematics and science in high school, students cannot be accepted in engineering colleges. Therefore, students should select engineering as their life work not later than their sophomore year in high school. This is particularly difficult since, at so young an age, students need exceptionally wise guidance and counseling in order to select a field of work. However, if they are not properly oriented in high school it will be too late to train them in engineering after they reach the college campus unless they are willing to undertake an additional year of pre-engineering training.

Recently the McGraw-Hill Book Company published a text entitled "Engineering as a Career" by Prof. Ralph J. Smith (review in ENR Sept. 6, p. 102). This book was apparently written as a textbook for a college course in engineering orientation. For such a course it would be excellent. I believe, however, that the book should be made available to high school students, as it is written at a level which is not beyond their comprehension. There is much in the book to attract young people into engineering. Further, it provides the reader with an insight into the types of problems he may expect to encounter in an engineering college, and later in actual employment. A publication of this type but slanted especially toward civil engineering would, in my opinion, in time help to alleviate indirectly the present serious shortage.

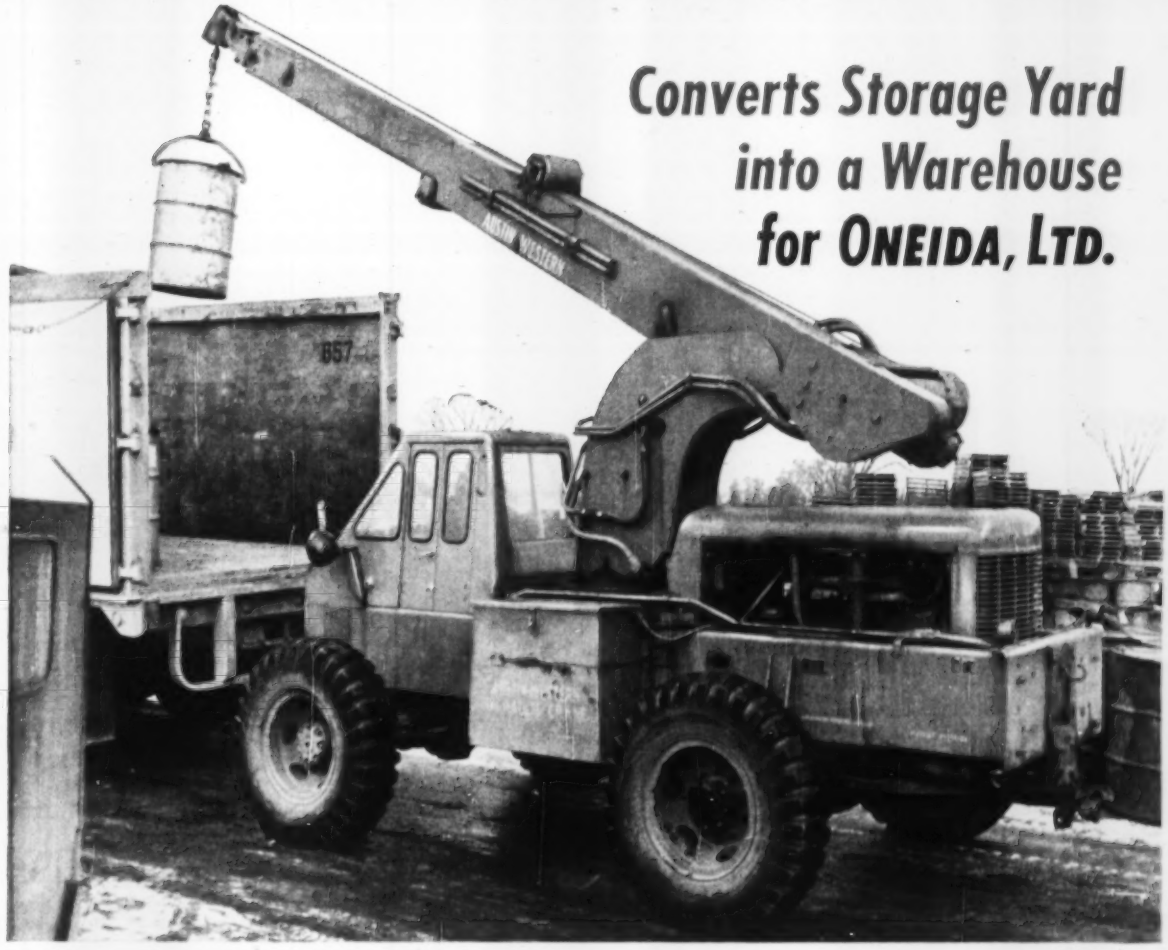
PROF. E. I. EISENHEISER
Director, Dept. of Civil Engineering
Illinois Institute of Technology
Chicago, Ill.

CALENDAR

Fourth Illinois Structural Engineering Conference, discussions on steel and concrete specifications, one-story building foundations and high-strength structural steel. University of Illinois, Urbana, Dec. 3-5.

Illinois Institute of Technology, Modern Builders Conference, Prudential Building, Chicago, Ill., Dec. 6-7.

AUSTIN-WESTERN HYDRAULIC CRANE



Converts Storage Yard into a Warehouse for ONEIDA, LTD.

Versatile Crane Solves Storing—Warehousing—Handling Problems

Does Twice as Much Work with Less Effort

Here's what they say...

"Before we had our present complete unit, we used to skid heavy machinery half a mile down the road from the siding and into the plant where perhaps an overhead crane would place it. Now, the hydraulic boom of our Austin-Western crane handles any machine up to 5 tons in weight. It reaches in a freight car or skids a machine out onto the trailer and hauls it in short order into the plant aisle, very likely right to the point where it is to be set up, and lifts it into the place where it belongs."

"We have literally made a warehouse out of our storage yard with every location clearly marked and cases carefully piled in the places assigned to them."

"Hard to handle items, like telephone poles, are easy for our combination crane and trailer."

"Here in our main Plant a truckload of 12 drums, weighing from 1000 to 1800 pounds each, formerly caused heavy maintenance expense and downtime on our old truck and crane. Our Austin-Western equipment could handle twice this load with no trouble."

"The average for the last few months has shown more than 150 hours a month active service for our crane and trailer unit."

"A two-way radio in the crane cab and on each of our ten trucks enables the unit to save waste time, avoid doubling back and empty hauls."

For the complete Oneida Ltd. story, ask for Gould Certified Report No. 5511.

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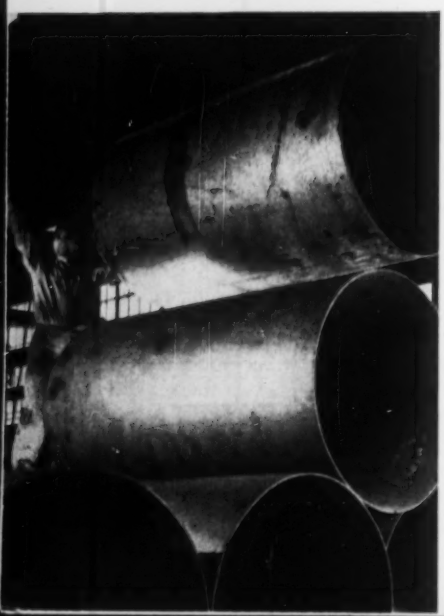
Please send complete Gould Certified Report No. 5511

Name .....
Title .....
Company .....
Street .....
City ..... Zone ..... State .....

In Bay Village, Ohio—Cuyahoga County Engineers combat corrosion with over 37 tons of wrought iron plate for 48-inch sewage line

Corrosive threat plus inaccessible location added up to Wrought Iron for 48" O.D. sewage line



There was no question about the corrosion factors involved in the sewage line planned to serve Bay Village, Ohio. Compounding the problem was an almost inaccessible location that would make repair and maintenance difficult and expensive. And added to these considerations was the need for a material with sufficient structural strength to permit a 60-foot span between two trusses on either side of the valley the line had to cross. Cuyahoga County Sanitary Engineers, under the direction of Mr. John Puzenski, answered all these requirements with wrought iron. More than 37 tons of ½-inch wrought iron plate was fabricated into 48-inch diameter pipe and installed in approximately 270 feet of the sewage system.

Morgan Steel Products, Inc., Cleveland, Ohio, handled the fabrication. Installation work was done by The Utilities Construction Company, Cleveland, Ohio.

Our bulletin, *Wrought Iron for Sewage Treatment and Disposal Installations*, gives complete details on wrought iron's ability to last longer, at lower cost per year. Write for your copy.

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Available in Canada and throughout the world

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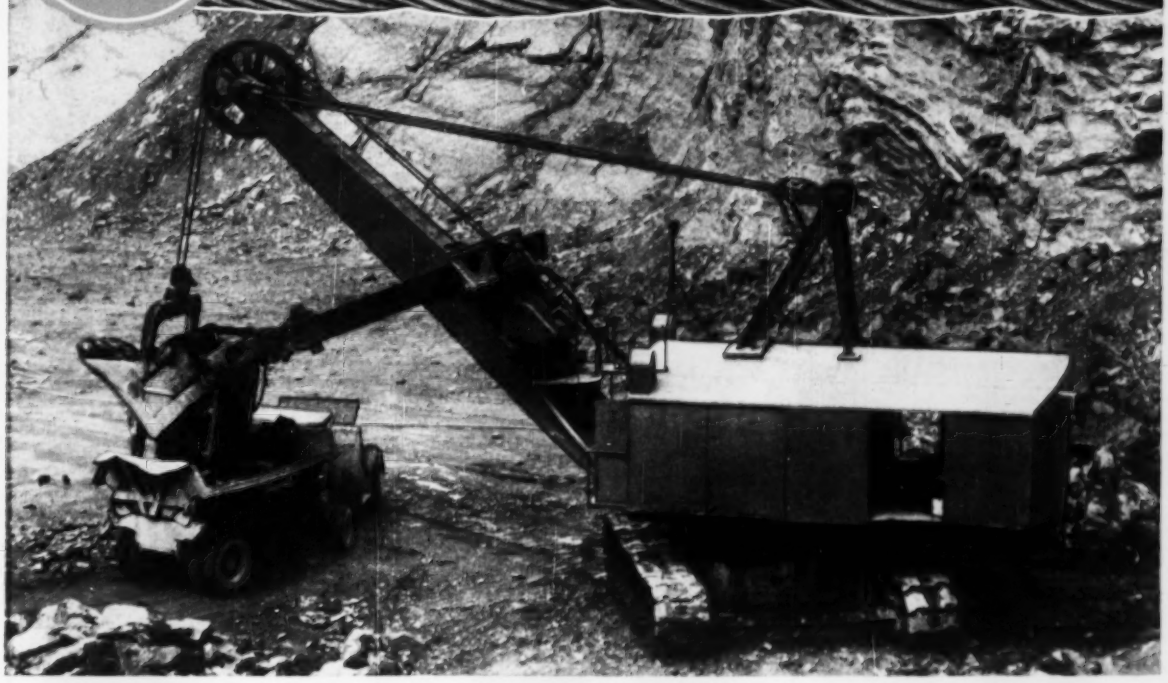
ALSO ELECTRIC FURNACE QUALITY STEEL PRODUCTS

an ACCO product

American Cable TRU-LAY VHS 15% STRONGER



33% Longer Wear with VHS Shovel Hoist Ropes

Lester Van Alystyane, Superintendent of The Callanan Road Improvement Company, Kingston, New York says: "Quarrying operations are rough on shovel hoist ropes. The best Improved Plow Steel shovel hoist ropes we could buy for our 120-B Bucyrus-Erie shovel used to last for about 250 thousand tons of rock. When we switched to new TRU-LAY VHS the life of our ropes jumped over one-third—now we get 325 to 350 thousand tons per rope.

"The new VHS seems to take the shocks better than any other rope we have used. And it saves us money on 'down time' and loss of production."

New VHS is setting new records like this in hundreds of applications—as shovel hoist ropes, scraper and dozer cables and draglines. Made from a new grade of steel for wire rope, it is at least 15% stronger than IPS—the strongest grade formerly available.

Handle Heavier Loads—With Higher Safety Factor

This extra strength means you can safely handle heavier loads with the same diameter line. And you get a higher factor of safety during the entire period of operation.

Tougher

And, in addition to its greater strength, new TRU-LAY VHS is tougher. It was developed especially for the toughest applications—draglines, shovel hoist ropes, scraper and dozer cables. It thrives under the abuse wire rope necessarily gets in these punishing services.

Cuts "Down Time"—Lowers Cost

Because it is stronger and tougher, new VHS lasts longer in these tough applications. This saves money. And you make additional savings by reducing the amount of "down time" necessary for wire rope replacement.

Your American Cable distributor has draglines, shovel hoist ropes and scraper and dozer cables of new TRU-LAY VHS in stock now. You don't need any complicated specifications to order them. Just call him today and tell him the size and diameter you want.

BUILD BETTER ROADS TODAY · FOR A GREATER AMERICA · See you at the ROAD SHOW CHICAGO Jan. 28-Feb. 2, 1957

ACCO American Cable Division
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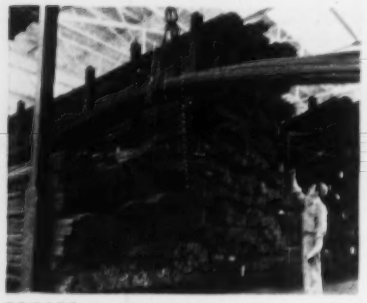
CONTRACTORS GUIDE to Ryerson Steels and Services

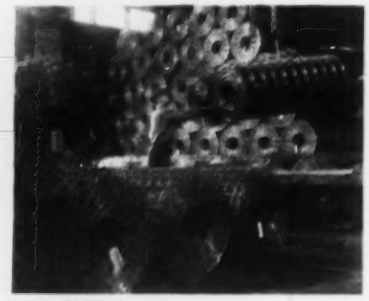
Supply problems are delaying many construction projects today, but you can keep jobs moving ahead unhampered by steel shortages when you build with reinforced concrete—and depend on Ryerson reinforcing service.

So for your buying convenience here's a quick review of Ryerson steel products—all in good supply—and Ryerson services for contractors—all readily available to you.

See your Ryerson Steels catalog for the complete list of products—including all construction steel accessories, threaded bars, turnbuckles, caisson rings, etc., and write for our bulletin (No. 70-2) on specialized reinforcing service.

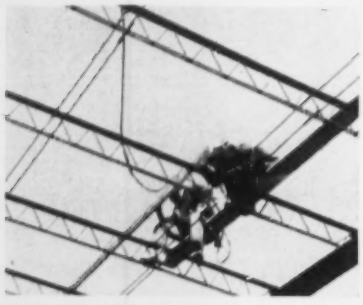


RE-BARS—New billet, deformed reinforcing bars in stock at 15 Ryerson plants. Designed for highest bonding power, bars conform to all building codes and to ASTM specs. A-15-52T and A-305-50T.



WIRE FABRIC—Electric-welded fabric of cold drawn wire in rolls available from stock in a wide range of standard gauges and spacings. Special gauges and spacings furnished to order.

SPIRALS, for column reinforcement—Made from hot rolled wire rod or cold drawn wire in ¼", ⅜", ½" and ⅝" diameters complete with channel spacers. Collapsible for shipment.



OPEN WEB STEEL JOISTS—All welded, designed for maximum strength, minimum weight in accord with Dept. of Commerce standards. Available in 4' to 40' lengths and 8" to 20" depths.

DETAILING—Expert Ryerson detailers can furnish complete setting diagrams and bending details that effect substantial reduction in re-bar placement costs.

FABRICATING SERVICE—Modern equipment and competent personnel to cut, bend, weld, thread or otherwise prepare any tonnage of construction steels are ready to work for you at Ryerson.

POSITIVE IDENTIFICATION—Permanent tags that cannot be defaced or torn off accurately identify every piece of Ryerson reinforcing steel—so correct placement on the job is quick and sure.

STEEL FORMS for concrete joist construction—Standard removable steel forms, slip or nail-down type, furnished in 20" or 30" widths. Special filler forms in widths of 10, 15, 20 and 30 inches.

DEPENDABLE DELIVERIES—Huge Ryerson stocks and big fabricating capacity enable us to meet most any delivery requirement. Your schedule sets the pace—Ryerson steel rolls to meet it.

RYERSON STEEL

JOSEPH T. RYERSON & SON, INC. • PLANTS AT: NEW YORK • BOSTON • WALLINGFORD, CONN. • PHILADELPHIA • CHARLOTTE, N. C. • CINCINNATI CLEVELAND • DETROIT • PITTSBURGH • BUFFALO • CHICAGO • MILWAUKEE • ST. LOUIS • LOS ANGELES • SAN FRANCISCO • SPOKANE • SEATTLE.

ENGINEERING NEWS-RECORD

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Back issues of ENGINEERING NEWS-RECORD *are generally available for the previous six months. Price 35¢ each copy except Annual Cost Issue. Semi-annual indexes will be sent on request.* ENGINEERING NEWS-RECORD *is also indexed in Industrial Arts Index and Engineering Index.*

THE CONSTRUCTION WEEK

UNDERWATER GROUNDBREAKING—A revolving cutterhead of the pipeline dredge Maryland dipped into frigid waters of the Delaware River at Philadelphia last Friday. There were speeches, picture-taking, and the 35-ft deepening project—Philadelphia to Trenton—had begun. This is the Upper Delaware River dredging project, authorized by Congress in 1954 as a 40-ft channel, but limited to 35 ft in the appropriation act that committed $6 million for the work this fiscal year. The extra 5 ft represents additional draft U. S. Steel and others would like for ore boats that will call at the Fairless Works, near Trenton. It has been suggested by President Eisenhower that local beneficiaries should help pay the added cost. The 35-ft channel will cost about $50 million to dredge; a 40-ft channel would cost about $90 million.

THE BRITISH HAVE LANDED—First major St. Lawrence Seaway contract to go to a British construction firm was signed last week as Balfour, Beatty & Co. of England took on $7.3 million worth of dredging in the Welland Canal. The St. Lawrence Seaway Authority of Canada let the contract.

TIP FOR HOMEBUILDERS—Builders would benefit by lifting some ideas from automobile manufacturers, according to Robert P. Gerholtz, a Michigan contractor. Gerholtz told the Ohio Home Builders Association that they should become as design conscious as the auto industry and retool for 1957.

SAME OLD JOB—When New York City's Department of Marine and Aviation opened bids recently on modernization of bridges at ferry slips at its Whitehall St. Ferry Terminal, it found that the low bidder at $2,253,100 was McKiernan-Terry Corp. of Harrison, N. J. A check of city records turned up an interesting fact: Original contractor on the job, in 1925, was McKiernan-Terry Corp. of Harrison, N. J.

YOU CAN'T WIN—Last year, as in several previous years, St. Paul Public Works Commissioner Frank D. Marzitelli ordered and used 60 carloads of rock salt for combatting snow and ice on city streets. And last year, as in previous years, motorists protested that the resulting brine was ruining their car bodies. In deference to the taxpayers, the city prepared for this winter by stocking up heavily with sand instead of salt. Came the first snowstorm on Nov. 15, and the Public Works Department spread 2,000 tons of sand in 16 hours. But the citizens howled louder than ever—snow and ice covered the sand as fast as it was placed. Now Marzitelli is asking emergency funds to purchase enough rock salt for the rest of the season.

BIGGEST CUT IN U.S. ROAD-BUILDING HISTORY

TO HELP BREAK CALIFORNIA BOTTLENECK

SECOND ONLY TO THE PANAMA CANAL in earth-moving magnitude, this 8½-million-yard cut will result in a canyon 1,370 feet wide and 350 feet deep at San Francisco's Carquinez crossing. Although much rock is being encountered, blasting is kept to a minimum and rippers and scrapers help keep the pace close to 30,000 yards per two-shift day! Goodyear 3-T Nylon Cord HARD ROCK LUG tires are taking this tough job in stride.

HOIST EQUIPPED RIGS make quick work of tire maintenance — help cut tire-cost-per-yard to new lows.

Another bottleneck broken!

TUBE AND FLAP TROUBLES ENDED FOREVER

with Triple-Tempered 3-T Nylon Cord

TUBELESS TIRES!

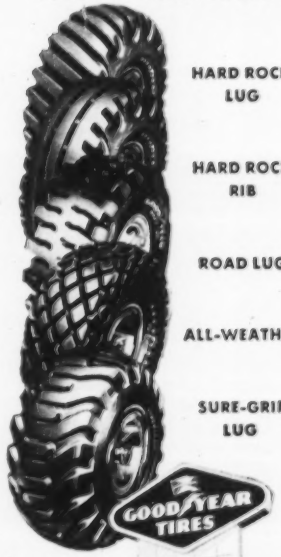
AIR DOESN'T SEEP THROUGH 3-T CORD BODIES — and Goodyear's mounting program is quick, safe, airtight, from smallest to largest sizes.

That's why Goodyear TUBELESS tires and rims are standard on foremost original equipment—and can be specified for *all* equipment.

But there's no need to wait. You can get all regular Goodyear features—plus the following TUBELESS advantages by changing over present equipment NOW:

No tube or flap troubles! No tube replacements! Easier mounting! Airtight assembly! Cooler running! Slow leaks instead of blowouts! Easier repairs! Simpler, re-usable valve parts! Simply contact your Goodyear dealer Goodyear, Truck Tire Dept., Akron 16, Ohio.

NOW IN 3-T NYLON CORD — TUBE-TYPE OR *TUBELESS!*



Look for this nearby Goodyear dealer sign for better tire values—better tire care.

Buy and Specify

GOODYEAR

MORE TONS ARE HAULED ON GOODYEAR TRUCK TIRES THAN ON ANY OTHER KIND

Road Lug, Sure-Grip, All-Weather—T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

WASHINGTON OBSERVER

Important details of the new interstate highway building program are being modified from time to time as both state and federal officials translate the basic legislation into concrete and asphalt.

For instance, private estimates from Bureau of Public Roads officials say that only ⅓ of the 41,000 miles must be relocated. When the program was being talked over with Congress last year, the best estimates were that some 85% to 95% of the superhighway network would have to be relocated. The mileage that will remain in its present location will be mainly (a) in the East and (b) in the metropolitan areas.

Interchanges will be from 3 to 10 miles apart in the eastern part of the country, officials say; further apart in the West.

New study on materials requirements is being undertaken by the Bureau of Public Roads.

Standards for frontage roads are being taken up at the Atlantic City meeting of the state highway officials this week. Federal officials now expect substantial mileage of frontage roads to be built with 90% federal funds.

•

Another step to help housing starts has been taken by the Administration. The Federal National Mortgage Administration, which has been supporting the market by using Treasury funds to buy up mortgages, is now going to restrict its purchases to mortgages that are offered within four months following the date of the FHA insurance or the VA certificate of guaranty.

Up to now, Fannie Mae has been purchasing mortgages up to two years old. This concentration of funds into new mortgages may actually slow down its rate of over-all buying, at least for a time. Purchases have hit as high as $30 million a week recently. It has drawn down about $250 million of its line of credit at Treasury; this leaves about $750 million still available—unless and until Congress adds to the fund through legislation.

Housing Chief Cole promises higher interest rates on FHA mortgages. He says that before Congress returns, he'll come up with proposals "for an affirmative program to place housing in a stronger position in today's money markets."

Veterans organizations, however, are already opposing any move which would put the present 4½% rate on GI loans.

•

Government contractors who hire any government engineers are being denounced by a House civil service committee which is looking into the problems government agencies have in keeping professional personnel.

"We are particularly concerned over hiring competition created by cost-plus, defense research and development contracts," says Congressman Davis, chairman of a subcommittee on manpower utilization.

The same charges apply to engineering consultants who do the architect-engineer work for military agencies. Corps of Engineers, Navy's Bureau of Yards and Docks, and the Air Force all feel the impact.

•

An influx of cases over federal wage floors is being prepared for by the Labor Department. Officials are pointing out their victory in Federal Circuit Court in Atlanta, which upheld findings against a supplier of materials for state highway work. Despite the fact that many suppliers of materials are local, rather than interstate businesses, they run into the Wage-Hour Law when they produce materials specifically for highway construction work and must pay the $1-an-hour minimum and time-and-one half after 40 hours.

Better Building . . .

AT LESS COST!

Prestressed, Rigid-Frame Structure, Costing $1.72 per Sq. Ft., Finished Months Ahead of Estimated Schedule

● Well worth looking into, in these days of still-rising costs, is the economy potential of prestressed concrete construction. This 100-by-64-ft. office building, two floors and full basement, 18,000 sq. ft. of floor space, quality concrete throughout, was completed months ahead of estimated schedule. Utmost fire-safety and structural soundness, plus earlier occupancy and quicker return on owner's investment. In-place cost of structure, $1.72 per sq. ft.

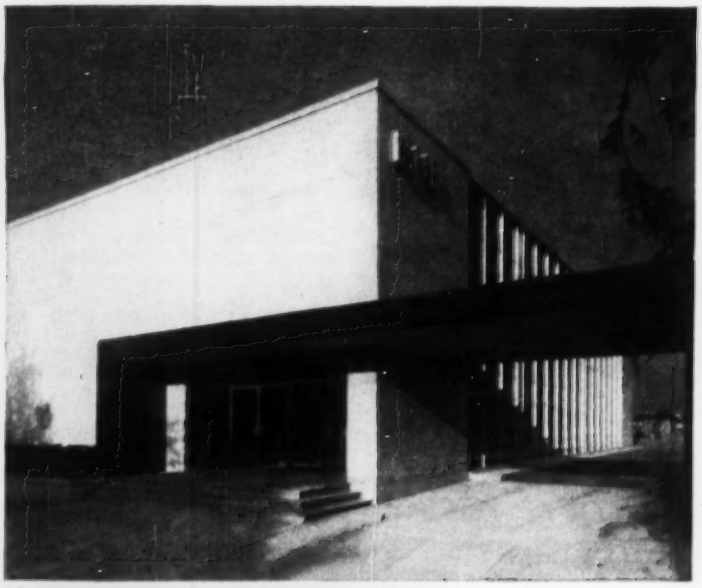
Precast reinforced columns, 32 ft. on centers, have steel plates welded to girder plate, creating a rigid frame. Hollow girders, precast in halves and assembled into 32-ft.-long members, were post-tensioned with three cables before erection. Three additional continuous cables were added after erection. Inside of girders was filled with grout after tensioning.

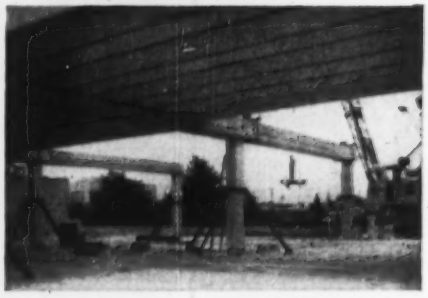
Each 6-ft.-wide double-T floor section, supported on girders 33 ft. 4 in. on centers, is stressed with sixteen wire strands, pretensioned and bonded. 'Incor' 24-Hour Cement was used throughout in precasting, for the twin advantage of profitable speed with highest quality.

Required 4500 psi strength was attained after 17 hours steam curing—3-day strengths averaged 6000 psi. 'Incor' was also used in precast wall panels.

Another convincing example of always-dependable 'Incor'* performance—soundest possible reason for insisting on America's FIRST high early strength portland cement for time saving and quality assurance.

*Reg. U.S. Pat. Off.





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U. S. FIDELITY AND GUARANTY CO.
Office Building—Richmond, Va.

Architect: J. HENLEY WALKER, JR.

Structural Engineer: WM. J. BLANTON

General Contractor:
DANIELS CONSTRUCTION COMPANY

Members Prestressed by:
CONCRETE STRUCTURES, INCORPORATED

Precast Panels by:
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—all of Richmond, Va.

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THE ENTIRE CONSTRUCTION FIELD

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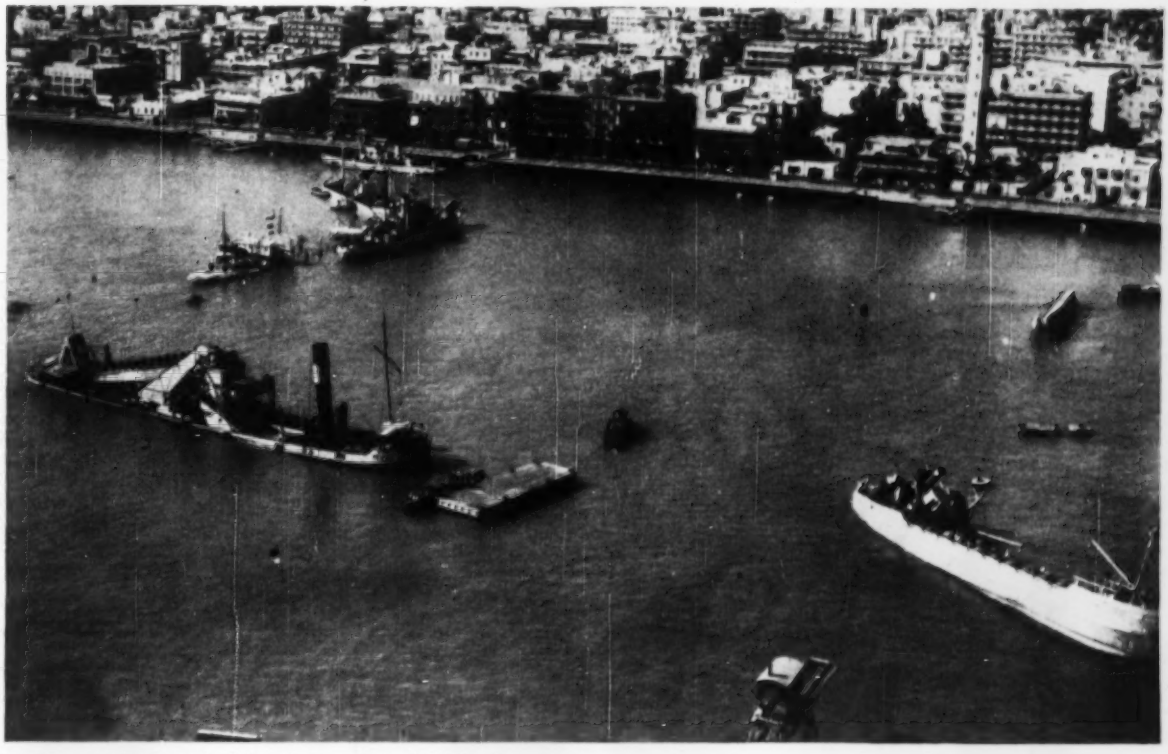
LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST CEMENT PRODUCERS: 18 MODERN MILLS, 38,000,000 BARRELS ANNUAL CAPACITY



Sunken dredges and ships clutter Port Said harbor as . . .

Contractors Are Sought to Open Suez

Waterfront contractors and marine salvage experts will be the next United Nations force to land in the Suez Canal zone—and the one that holds the key to ending the oil shortage emergency in Europe. Dag Hammerskjold, UN Secretary General, returning from Egypt last week, asked and received from the UN General Assembly the authority to hire contractors to clear the wreckage of vessels and bridges from the canal. He immediately appointed Lieut. Gen. Raymond A. Wheeler (Retired) former U. S. Army Chief of Engineers and presently consulting engineer of the World Bank to handle technical organization and details. John M. McClay, chairman of the board of the Chase Manhattan Bank and former president of the World Bank will supervise the business operations, and Alfred G. Katzin of the UN staff will act as liaison with the United Nations organization.

According to latest reports there are 49 obstructions in the canal, including 20 vessels of one type or another in the northern entrance. At Port Said a floating bridge was sunk at the north end of Lake Timsah, near Ismailia, and an LST filled with cement is said to block the channel at the south end of this lake. The movable railway bridge at El Ferdan north of Ismailia has also been dropped into the canal.

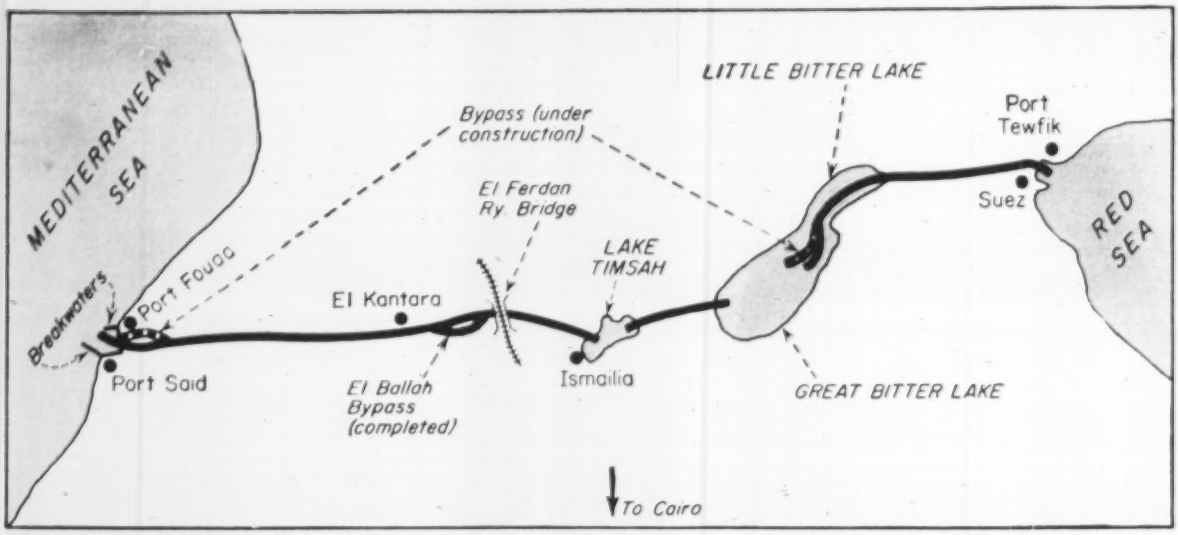
The nature of the obstructions from Port Said southward 20 miles to about El Kantara is more accurately known than elsewhere since this is the area of British-French occupation. Airphotos are the source of information elsewhere, and these have revealed a tug and a vessel about 300 ft long sunk in the Red Sea entrance to the canal at Port Tewfir.

• **The contractor question**—Mr. Hammerskjold reported that he had already approached some Danish and Dutch construction firms who were ready to go ahead, presumably with equipment they have in the Mediterranean or could move there in a relatively short time. Belgian as well as Dutch contractors were working on the canal before it was blocked, and some of their equipment may still be afloat.

No U. S. waterfront contractor equipment is known to be in the area. In fact the only large U. S. waterfront job, the naval and airbase at Rota, Spain, utilizes a Dutch subcontractor on the breakwater and pier construction. Nevertheless, the possibility of using U. S. contractors and salvage experts is not ruled out. According to advice from the UN, their inquiries would be welcomed. In Mr. Hammerskjold's report he said the Secretary General intended "to address himself to firms in countries outside the present conflict." Also "in his contacts with the firms approached he would try to clarify to what extent they, in turn, may need assistance" from other firms. This would indicate there might be subcontractor roles on the clearance job.

• **Time required to clear**—Estimates of the cost of clearing the wreckage range upward to $40 million although Mr. Hammerskjold would not venture a figure of his own.

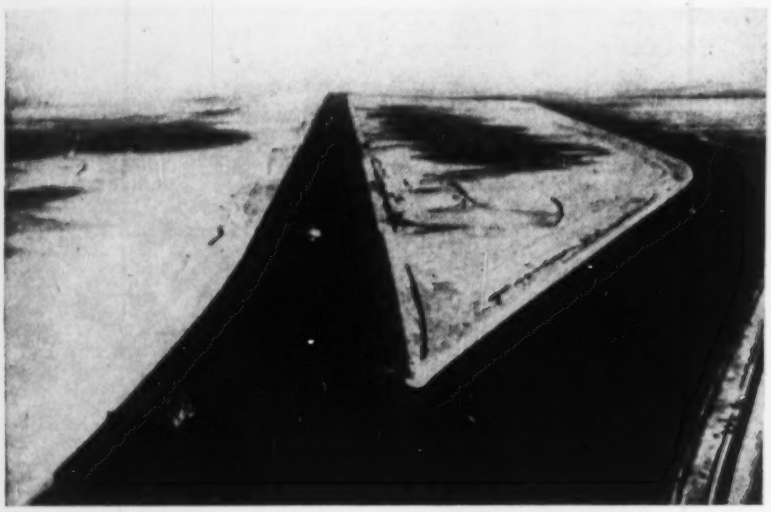
Depending on the size of force assembled, the amount and kind of equip-



SUEZ CANAL is blocked in Port Said harbor, Lake Timsah and at the Red Sea entrance at the south end. The sea-level waterway, built through desert and swampland, cannot practicably be widened beyond its present 510 ft, so that increased capacity has been gained by "double tracking" in the form of bypasses.

ment it can command, and the degree of cooperation it can count on from the Egyptian Government, it has been said that the canal can be cleared in from two to nine months, with five months the most quoted estimate. Presumably these estimates refer to complete clearance and not to opening usable ship lanes through the debris which could probably be done in a month or less. As a matter of fact, it is reported that the British Navy is already working on the wrecks at Port Said, and that the British have estimated that navigation past Port Said for vessels up to 25 ft draft (which account for about 70% of the traffic in normal times) can be resumed by Dec. 1.

Such opening would obviously not mean that all of the vessels could be raised and restored to use by that time, since among those at Port Said are three large dredges and three floating cranes of 15, 80 and 180 tons capacity. But restoring such equipment to service is a critical factor because the most pressing clearance job is in Port Said so that the northern entrance to the canal can be opened to dredges. Silt flowing in from the Mediterranean requires constant maintenance dredging in normal times, and cessation of this activity permits silt to accumulate to a dangerous degree. Desert-blown sand along numerous stretches of the canal constitutes another routine dredging task, and accumulations there will also have to be removed promptly to avoid a major dredging job in returning the canal to its former condition and depth.



EL BALLAH BYPASS, opened in 1951, permits two convoys of ships to pass without the delay of having one of them stop and anchor as is necessary in the single waterway to prevent collisions or bank erosion.

• **Characteristics of the canal**—The 105-mile Suez Canal is unique among the major canals of the world in the rapidity with which it could deteriorate under lack of maintenance. Hollowed out of sand dunes and swamps, which barely rise above sea level, its banks are basically unstable and easily erodable under the wash of passing ships. It is also unique in that it has been under almost continuous enlargement to serve increasing traffic since it was opened Nov. 17, 1869. The Universal Suez Canal Co., the French concern formed by Ferdinand de Lesseps, the canal's builder, had undertaken eight improvement programs up to the time the canal was taken over by Egypt last August.

When the canal was opened in 1869 it had a surface width of 177 ft, a bottom width of 77 ft and a depth of 26 ft. It is now generally 510 ft wide at the surface and 46 ft deep, with 3:1 bank slopes. The bottom width varies, but nowhere is the canal less than about 200 ft wide at a depth of 33 ft—the customary depth at which measurement is reported. The present canal is adequate for vessels of 35 ft draft, and the last and uncompleted improvement program was planned to make the canal available for vessels of 36 ft draft operating at normal speeds of 7 knots.

Given such depths, it is, however, more the width of the canal that limits its capacity since vessels cannot pass one another freely. The original narrow canal contained a number of lay-by sta-

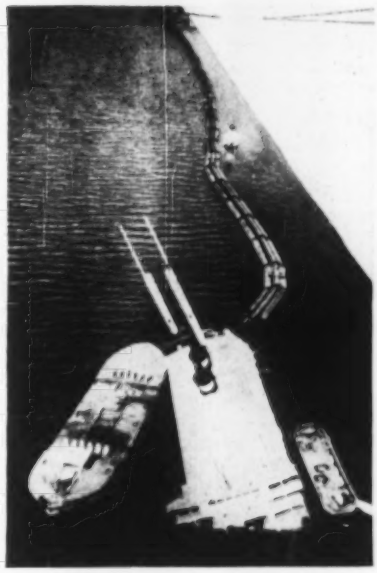
tions—short widened places—where a vessel could tie up while another passed. When the entire canal was widened, vessels could pass in the waterway, but one of them had to stop and tie up or anchor. The delays caused by this procedure led to the practice of passing vessels through the canal in convoys of about a dozen ships. Meeting convoys could pass one another in Great Bitter Lake near the south end of the canal, and in 1951 a 7-mile-long bypass canal was completed at El Ballah, providing a passing facility near the north end.

The El Ballah bypass proved so successful that two more were included in the last improvement program. Now partly completed, they are located at the Port Said end of the canal and at the north end of swamp-like Little Bitter Lake near the south end of the canal. The Port Said bypass, 1½ miles long, is designed to permit the marshaling of southbound convoys so that they can start off immediately after a northbound convoy passes in the main canal; there has not been room in Port Said Harbor for the southbound convoy to assemble in the line until the northbound convoy anchors. The second new bypass in Little Bitter Lake will be 4½ miles long.

The existing capacity of the canal is about 40 vessels a day, and the bypasses would increase this to 50. How important this could be is shown by the growth in annual tonnage figures for the canal. Ten years ago, 22 million tons of shipping passed through in twelve months. Last year the tonnage was 107 million, of which 67 million was petroleum.

In addition to the bypasses, the last improvement program encompassed widening the canal from 230 ft to 260 ft at the standard 33-ft depth, and deepening it from 46.5 to 48 ft. Widening at lay-by stations was also contemplated to accommodate vessels which can not proceed at convoy speeds and therefore have to tie up to permit convoys to pass. All this improvement work was being done by a combination of Dutch, Belgian and French contractors. On these and other improvements in 1955, the Canal Company spent a total of $8.6 million.

All of the widening has been done on the east side of the canal, since the west bank is occupied by a railroad, a highway and the so-called Sweet Water Canal, which brings fresh water to the canal zone from the Nile near Cairo. Except for Port Fouad, the Canal Company town, which contains about 1,400 houses, workshops, power plants, schools, office buildings and stores, the principal towns on the canal, Port Said and Ismailia, are also on the west side. They derive their names from former heads of Egypt who ruled under the Turks. Viceroy Said gave de Lesseps the original concession. And Khedive Ismail, who succeeded him in 1863, sold Egypt's stock in the company to the British Government.



DREDGE down in a section of the Suez Canal symbolizes not only the necessity for clearance, but the need for this type of equipment to keep the waterway free from silt and drifting sand.

Fouad and Tewfik are later Egyptian rulers who gave their names to towns along the canal.

The last improvement program contemplated the removal of 90 million cu yd, estimated to be a three-year job. The original canal required only 95 million cu yd of excavation, but since that time another 253 million cu yd has been removed during the various improvement programs and, in addition, maintenance dredging has accounted for the removal of nearly 300 million cu yd.

The company had been considering further improvement plans, which in 15 years were designed to increase the capacity of the canal nearly four times to something like 180 ships a day. Whether these plans take into consideration the present tendency toward larger tanker—80,000 to 100,000 tons as compared to the present 25,000 to 40,000 tons—is not known. It has been stated that vessels with deeper draft than 36 ft would require too much power to move through the waterway with its present width.

• Clearance methods—These long-time plans for the Suez Canal, however, recede in importance in the face of the necessity to clear away the obstacles in the present canal.

Removing the sunken vessels, according to salvage experts, might follow a variety of lines. The small ones can probably be lifted directly with heavy floating cranes. Larger ones not worth salvaging—or even good ones that need to be removed quickly because they block ship lanes—can be blasted into manageable pieces and lifted out in the same way.

The majority of the vessels will, however, require patching and pumping to restore their buoyancy and bring them afloat. Because the holes in the hulls are probably irregular from the blast effect, installation of steel plate patches would be difficult. Wood patches are more likely, attached with hook bolts and treated with some material at the edges, such as canvas or oakum, which would swell to a tight fit. Or if a more sturdy patch were needed tremie concrete could be applied in the hole behind the wood patch.

Deck openings under water also will have to be closed, or cofferdams built over them to above water level. After that it will be a matter of sustained pumping to restore buoyancy. Or if the deck is above water and can be made airtight, compressed air can be used to force the water out. On some vessels the damage may have occurred in double bottoms or in compartments whose upper surface is or can be made tight. In this case compressed air could also be used to exhaust enough water to float the ship.

In all of these cases the supplemental use of slings under the hulls, attached either to floats or to crane hooks, might also aid the raising. Dredges because of their heavy, high superstructure present a special salvage problem because of the danger of capsizing as they are lifted free of the waterway bottom. Slings and crane lines are most useful here.

In all, the salvaging job, it is clear, will require considerable quantities of pumps, compressors, cranes and derrick boats, and above all, know-how.

Removal of the bridge wreckage at El Ferdan is another type of operation, probably involving cutting the steel work into sections that can be moved by floating cranes. When an earlier bridge at this site was knocked from its supports by a passing ship several years ago, the canal was closed for several weeks while the wreckage was removed. This could be an equally time-consuming operation.

• Quick start hoped for—Secretary General Hammerskjold in his report to the General Assembly stated that the Egyptian Government had "expressed its wish to see the operations completed with the utmost speed." In view of this attitude, there is some optimism that political considerations will not be allowed to hold up a quick start on the clearance operations.

Housing Census Depicts Current Trend

Three-Year Trend in Makeup of New Homes Market
For Nonfarm One-family Houses

	1954	1955	1956
Medium Selling Price	$12,300	$13,700	$14,600
Average Floor Area, of	1,140	1,170	1,240
Number of Bedrooms, percent of all houses:			
1 Bedroom	2	1	1
2 Bedrooms	32	22	19
3 Bedrooms	58	68	72
4 Or more bedrooms	5	6	7
Unknown	3	3	1
Exterior Wall Construction, percent of all houses:			
Masonry	13	20	16
Solid brick	2	3	2
Brick facing	7	12	10
Concrete Block	3	4	1
Stucco	B	B	2
Other masonry	.1	1	1
Frame, percent of all houses:	82	77	83
Brick facing	20	18	26
Brick and wood facing	5	8	7
Wood facing	31	29	24
Asbestos shingle facing	14	8	9
Stucco	.....	.....	14
Other facing	12	14	3
All other construction	3	1	A
Unknown	2	2	1
Basements, percent of all houses:			
No basement	58	55	55
On slab	.....	16	16
With crawl space	.....	39	39
Full or partial basement	41	42	44
Unknown	3	3	1
Utility room, percent of all houses:			
Utility room	B	33	37
No basement	B	27	30
With basement	B	6	7
No utility room	B	64	59
Unknown	B	3	4
Fireplace, percent of all houses:			
1 Fireplace	B	27	34
2 Or more fireplaces	B	3	2
No fireplace	B	66	61
Unknown	B	4	3
Number of bathrooms, percent of all houses:			
1 Bathroom	B	B	48
1 Full and 1 partial bathroom	.....	.....	20
2 Full bathrooms	B	B	24
More than 2 full bathrooms	B	B	6
No bathroom	B	B	1
Unknown	B	B	1
Interior wall construction, percent of all houses:			
Wet wall (plaster)	B	B	42
Dry wall	B	B	56
Unknown	B	B	2
Type of heating, percent of all houses:	B	B	.....
Steam	B	B	A
Hot water	B	B	10
Warm air	B	B	84
Furnace (ducts)	B	B	70
Space heating (no ducts)	B	B	14
No provision for heating	B	B	4
Unknown	.....	.....	2
Air conditioning, percent of all houses:	B	B	7
Central	B	B	1
Combined heating-cooling	B	B	5
Unit conditioners	B	B	1
No air conditioning	B	B	91
Unknown	B	B	2
Garage and carport, percent of all houses:			
Garage, no carport	B	B	50
Garage and carport	B	B	1
Carport only	B	B	17
Neither	B	B	30
Unknown	B	B	2

Note A: Less than ½ of 1%.
Note B: Not reported

A 1956 census of new houses—released last week by 30 member manufacturers of the Producers Council—confirmed what homebuilders and home buyers have long been saying:

- Houses are getting bigger and much more expensive. Median selling prices have increased from $12,300 in 1954 and $13,700 in 1955 to $14,600 in 1956.
- Fewer houses have only one or two bedrooms; more have three or four.
- Basements have made a mild comeback in the last two years, but they still are found in less than half of the new houses.
- Half of the new houses this year have 1½, 2 or more bathrooms each.

Three-year trends pointing the direction and measuring the rate of change for these and other characteristics of new homes stand out in the table.

- Half of this year's houses include a garage, while 17% have carports.
- At least 7% of the new homes come equipped with air conditioning.
- More than one-third have fireplaces. Two or more fireplaces were built into 2% of the new houses.

These and related figures were developed by a Bureau of Census survey in the first quarter of 1956 for the Bureau of Labor Statistics. Thirty of the members of the Producers Council put up $1,500 each to a $45,000 fund that made possible this year's comprehensive study of house characteristics, more detailed than similar surveys—likewise financed in large part by private industry—that were made in the first quarters of 1954 and 1955.

As a reward for their financial support, the 30 contributors were given the privilege of a Nov. 23 release of survey material related to their industries and products. A full report of the entire study will be forthcoming next week from BLS.

- **Structural trends**—Some interesting trends show up in the study of three-year trends:

Use of brick is growing as a facing material for frame exterior walls and is holding its own as a facing for masonry walls.—Solid brick construction, too, continues to be used in exterior walls of 2% of all new houses. In all, some 16% of new homes have masonry walls, as compared with 20% last year and 13% the year before.

Frame construction, conversely, shows a moderate growth: 83% of all new houses this year as compared with 77% a year ago and 82% two years back. However, both wood facing and asbestos-cement shingle facing made a decline as exterior wall covering for

frame houses during the same three years.

The trend in no-basement houses is almost too small to measure accurately over the three years. This year, 55% of all new houses have no basement, the same as a year ago, which was down slightly from 58% a year earlier. Of the no-basement homes built this year, less than one-third are slab on ground, and more than two-thirds have crawl space under the floor.

For interior walls, more houses have dry-wall construction than wet-wall, according to the survey figures for this year. Interior walls were not reported in the two previous studies.

This year's tabulation also shows major reliance on warm air heating, with 84% of all new homes thus equipped. In this warm-air group, 70% of all new houses have furnaces and duct systems; only 14% rely on space heating.

Utility rooms are growing in importance the figures show. Homebuilders now include utility rooms in 37% of all new single-family houses, as compared with 33% in 1955 (no figure reported for 1954). No-basement houses have the greatest need for utility rooms; they account for five-sixths of all the houses having such rooms.

• **Trends in rental units**—Similar trends are evident in smaller degree in new rental housing for apartment structures containing five or more family units. Average floor area per unit has gone up to 660 sq ft this year, an increase of 40 sq ft above 1955.

Increased floor area would appear to indicate higher-priced apartments, especially since the number of bedrooms per unit has been going down. Number of bedrooms per unit has gone through these variations for the three years, 1954-55-56, with the percentage for this year last in each category: no bedroom (efficiency apartments) 11, 6 and 12%; one bedroom, 48, 53 and 60%; two bedrooms, 27, 33 and 23%; three bedrooms, 13, 4 and 1%.

Dam Builder Switches to Dredge

Troubles moving earth cause change to hydraulic placement at Tuttle Creek Dam—biggest such operation since Fort Peck

A switch from earthmoving equipment to hydraulic placement of 3 million cu yd of fill was effected last week on Tuttle Creek Dam near Manhattan, Kan. The change in construction method will make the Army Engineers' Tuttle Creek project the biggest dredge-built dam since Fort Peck in Montana.

List and Clark Construction Co. of Kansas City credited difficulty in using earthmoving equipment for the change. Their dredge went to work last week.

A dredge was used to place a portion of the Gavins Point Dam across the Missouri River at Yankton, S. D., but the quantity involved was only a half-million yards. A dredge also was employed at Fort Randall Dam at Pickstown, S. D., but its use was limited to closure and the quantity involved was about half that of the Tuttle Creek job.

Difficulty in getting compaction was a factor that prompted the switch to the dredge, explained Superintendent Dale Peters. The sections involved called for pervious (sand) and random material. Specifications required 95% density. Attempted were rollers, vibrators and—most satisfactory—walking the job with wide-tracked tractors. But to achieve compaction with these means, the material had to be watered until it was so wet that equipment had trouble maneuvering.

An added factor was the difficulty of removing sand from the submerged borrow pit. And its abrasive nature sent maintenance costs up, Peters said.

• **Dredge now working**—Turning to a contract option that permits the contractor to elect hydraulic placement, the Kansas City firm brought a $250,000, 2,750-hp dredge to the scene. It was trucked in by sections and job-assembled. A 20-in. discharge pipe, mounted on a trestle, runs 5,895 ft. The layout was designed so that water will drain back to the borrow pit, permitting reuse.

The dredge was placed in use last Wednesday. Although bugs remain to be worked out, indications are that it will move 600 to 800 cu yd an hour. The first material placed exceeded density requirements with no additional handling.

The List and Clark contract is for $4,238,000. It calls for placing 1,175,000 cu yd of impervious fill in the dam's core; 2,900,000 cu yd of pervious and random fill, which will go on the downstream side; and 2,294,000 cu yd of limestone and shale fill on the upstream side.

• **Dam among the big ones**—Tuttle Creek is a key dam in the Kansas River Basin flood control project. In damming the Big Blue River, which comes into the Kansas just below Manhattan, it will control one-sixth of the Kansas River Basin drainage area. Its total cost will be $90 million, of which $21.5 million or 12% has been appropriated. The mile-and-a-quarter long dam, bitterly opposed by some residents of Big Blue Valley, has been a subject of controversy in the past, but the opposition—which at one stage forced abandonment of work—has almost died down.

As a dam with a major job of flood control, Tuttle Creek is a major structure among the world's dams. Its volume of 20 million cu yd will make it rank seventh among the world's earthfill dams. The others, with volume and date of completion: Fort Peck, 125.6 million cubic yards (1940); Oahe, South Dakota, 78 million (1961); Garrison, North Dakota, 69 million (1955); Fort Randall, 27 million (1954); Kingsley, Nebraska, 26 million (1951), and Gatun Canal Zone, 25.1 million (1912).

North of the Border

Ontario water agency ready for international effort—has own $2.5-billion task

Michigan's State Water Resources Commission met with its Ontario provincial counterpart last week at Lansing, in what Gov. G. Mennen Williams called "an historic occasion."

Actually, it was a return call paid by the Canadians, who had been visited by Michigan officials last spring when their unusual Water Resources Commission was brand new. Ontario's powerful young agency has the right to finance, design, construct and operate waterworks or sewage works for any community or group of communities in the province (ENR Apr. 19, p. 30).

Now, hardly more than six months old, the commission and its staff members visited its neighbors in Michigan for a day of information exchange. General Manager Albert E. Berry (former AWWA president) and his group conferred with the staff of Milton P. Adams, executive-secretary of the Michigan agency.

Speaking at a luncheon meeting, chairman A. M. Snider of the Ontario agency said: "Although we have only been organized for six months, we are ready to take action. Projects are being reviewed that will cost $125 million within the next few years. We estimate it will take about $2.5 billion to solve pollution and water problems in the next 20 years."

Snider said his province was ready to back up its part of a joint program on the border pollution problem—along the Detroit River and Lake St. Clair—estimated to cost $125 million. But he was emphatic on one point:

"There has been a lot of talk about which side of the border created the biggest pollution problem. Let us have it understood, the biggest offender is Detroit. I think Michigan officials will agree."

Michigan officials did not disagree.

North Carolina report emphasizes that . . .

Streams Are Important Too

Small-stream control warrants the most attention, according to the first report of the North Carolina State Board of Water Commissioners, which has submitted recommended legislation affecting North Carolina's water resources.

The board—created by the 1955 session of the state legislature—emphasizes that "flood control on the main streams is a big problem, but a much bigger problem is . . . the smaller streams." The report, released last week by Gov. Luther B. Hodges, who appointed the board, notes that rainfall for the state is ample—over 36 in. a year. But, it points out, the problem is balancing this supply against rising municipal, industrial, irrigation and recreational demands.

Creating one of the greatest problems is farm irrigation: "None of the water used for irrigation is returned to the stream from which it is taken, and as the need for irrigation comes at the low-flow period of the stream and at a time when all other water users need water, a very serious problem is created."

Recognizing the agricultural importance of irrigation and its growing use, the report states that more water must be supplied for this purpose. It calls for more soil conservation practices, more study of sedimentation and salt-water intrusion, and more work on groundwater. It recommends better regulation of water for irrigation purposes, licensing of well drillers and permits for construction of impounding reservoirs.

The legislative measures it proposes for submission to the 1957 session of the state legislature are:

- A bill requiring "all persons constructing impounding reservoirs to obtain a permit or license and operate the same in accordance with conditions attached to such permits or licenses." It was pointed out that there is now no agency authorized to pass on these matters or to specify the minimum flow that should be maintained in a stream.
- A bill to improve present irrigation statutes so as to "define terms such as creeks, rivers, ponds and lakes and perhaps penalize those failing to obtain a permit."

This present lack of definition brings up the question of just who should have a permit—and with no penalty for not having a permit there is no legal reason for enforcement. The report also points out that nothing in the standing laws requires a person drawing water for irrigation to maintain stream flow. This makes it possible to cut off all flow in a stream unless adequate measures are taken to prevent it.

- A bill "requiring all well drillers to be licensed and also requiring them to furnish samples of rock penetrated." This would help the state gain information in underground formations, records and water-supply problems. Unless this is done, the report notes, the state may have to spend several hundred thousand dollars in test drilling to get the required data.

In a broader view of water resources, the report also suggests topographical mapping of the state for planning against floods and storage of excess water for times of shortage. It also proposes comparatively inexpensive upstream reservoirs for the dual purpose of supplying users and regulating stream flow.

The report is the first of its kind in North Carolina. It follows the trend of looking to state legislatures for action on water problem. The view is long-range, for, as the report states, "North Carolina has a supply of water to meet its needs for years to come provided it is used wisely and not wasted as it has been in the past."

Tallest Lightweight Concrete Building

Now under construction in New York City, a $5-million luxury apartment house will reach 22 stories to become the country's tallest lightweight reinforced concrete building.

Both column and slab concrete contain expanded-slag aggregate. The lightweight material trims concrete weight to about 108 lb per cu ft, sharply reducing dead loads.

The building will be completely air-conditioned. Hot and cold water will circulate from central plants in the basement to individually controlled air-handling units in the 220 apartments. Also in the basement will be garage space for 100 cars.

Owner-builder of the project is Stanley R. Broff. H. I. Feldman is the architect, Victor Mayper, the consulting engineer. All three are New York firms.

Lift-Slab Damages

Four men injured in San Mateo failure get award

Four men injured in the collapse of a lift-slab roof of a San Mateo, Calif. school building in 1954 have been awarded $107,500 by a California court. The architect, general contractor and lift-slab contractor were named liable for the damages.

The 250-ton slab for the roof of Sierra High School, owned by the Archdiocese of San Francisco, fell while it was being lifted. The four men who were part of a group invited to witness the first application of the lift-slab technique in the area, were standing on the 65x70-ft slab when the columns buckled (ENR July 29, 1954, p. 25). Eight workmen also were injured.

The four plaintiffs in this suit were Charles Coogan, J. Ellis Miller, Robert F. Bishop and William S. Garrett. The State Superior Court awarded judgments against Vincent Raney, San Francisco architect; Swinerton & Walberg, San Francisco contractor, and Vagtborg Lift Slab Corp., Los Angeles.

The court did not try to determine whether the failure was due to inadequate bracing or weak columns. (The slab had been supported on nine standard 6-in. steel pipe columns, each bolted to the footing with four anchor bolts ¾ and ⅞ in. in diameter. During the lifting procedure, but before the slab was raised to its full height, the columns were noted to be ⅜ in. out of plumb and the slab was cleared of about 60 spectators.)

The plaintiffs in their case argued that the defendants knew the columns were out of plumb and had to be corrected at the last minute and that the onlookers should have been warned of a "known" danger.

$7-Million Hike Won't Stop Detroit's Convention Hall

Detroit's convention hall and exhibit building, now estimated at $49 million, will go ahead despite concern among city officials over a reported $7-million increase since April in estimated cost of the structure.

Reported causes of the increase are an upward revision of estimated steel requirements, higher steel prices due to the strike, and a general increase in labor costs.

Approving the decision of the Memorial Hall Commission to proceed with the job, which is part of the city's civic center (ENR Feb. 3, 1955), the Common Council of Detroit indicated that the added cost would extend financing for the project a year longer than had been planned—into the 1958-1959 budget.

Bids on the superstructure are scheduled to be taken next spring. Construction already is under way, however, on the foundations. Even so, the superstructure design (ENR May 29, p. 25) may be changed, according to Mayor Albert Cobo, if it is possible at this late date.

Architect-engineer on the project is the Detroit firm of Giffels & Vallet, L. Rosetti.

Highway Picture

More states get rolling on the interstate system

Evidence of continued swift action by the states continued to pile up across the U.S. this week as highway departments rushed to get projects rolling under the federal highway program.

Typical were:

Iowa's Highway Commission said its 1957 program would total $116 million—of which $71 million would go for roads on the federal interstate system.

Kentucky said it would spend first money on the interstate system within Hardin and Kenton Counties, including a 14-mile extension to the Kentucky Turnpike and a major connection to Covington—across the Ohio River from Cincinnati.

Michigan's plans for extending expressways in the Detroit metropolitan area came nearer reality when the City Council voted in favor of proposals for extending the Southfield Expressway; the Fort-Vernor Expressway; the Hastings-Oakland Expressway and the Lodge Expressway. Total cost of the work will run to about $241 million.

New Jersey's legislature finally approved a double-barrelled program, for double-decking the George Washington Bridge and construction of a new $116-million North Bergen Expressway to help take traffic to the westward away from the expanded bridge lanes. The Port of New York Authority will take care of the bridge work (approved last spring by the New York legislature) and contribute $24 million to cost of the expressway. Approval had been blocked during a long wrangle over location of the new route through thickly-populated North Jersey.

Ohio's Highway Department announced it would soon begin surveys for a long-range program to build a $50-million road between the Ohio River and U.S. 40, near the town of Thornville. Meanwhile, the state, after failing to get financing for the long-held dream of a "Y" turnpike linking Cincinnati and Toledo and northeastern Ohio, planned to substitute free roads for part of the system.

Who's to Blame?

Property owners say road work triggered a landslide

Damage claims for upwards of $5 million have been brought against the County of Los Angeles by property owners affected by extensive land slippage on the Palos Verdes Peninsula.

The property owners claim the slippage was triggered by weight of land fill placed at the top of the slide area by county work crews building an extension of Crenshaw Boulevard.

The slippage, first noticed last August, affects some 165 acres stretching in a rough rectangle from the ocean up hilly slopes. County engineers have estimated the rate of movement as averaging ½ to ¾ in. a day.

The slippage is occurring within about 560 acres, long recognized as a landslide area, though there has been no appreciable movement within it in recent years. According to a Department of Interior Geological Professional Paper issued in 1946, probable cause is a bentonitic tuff that—when sufficiently water-impregnated—serves as a lubricant for rock masses overlying it.

About 110 homes are in the 165 acres first defined by county personnel in October as the slide area. New cracks found since then indicate that the area is more extensive. But how much more is still a question. One of the worst-hit portions is the exclusive, beach-side Portuguese Bend Club. The whole area is part of one of the more expensive Los Angeles residential districts.

A few of the homes already have suffered cracked concrete walls and floor slabs, buckling foundations, and other damages. If the slippage continues, officials forecast extensive damage and possible excavation of the area.

Not enough is known of the geologic structure to do much forecasting. One of the largest of the affected property owners, Rancho Palos Verdes Corp. (a subsidiary of Great Lakes Carbon Corp.), has retained consulting geologists to explore the structure.

The County Building and Safety Division is refusing to issue building permits unless applicants sign written statements acknowledging awareness of the situation and accepting full responsibility as far as the division is concerned.

It is expected that the damage claims will be denied by the County Supervisors. This action will leave the complaining parties free to go to court. Largest claims—for $2 million each—were filed by Rancho Palos Verdes Corp. and Palos Verdes Properties.

A Rapid Increase

Regional associations of consulting engineers rise

A rapid increase in the number of regional associations of consulting engineers was reported by John M. Pryke, president, Consulting Engineers Council, in talks with the newly formed Consulting Engineers Association of Oregon and Consulting Engineers Association of Washington on Nov. 14 and 15.

In the last six months, ten new regional associations, most of them on a state basis, have been formed, Mr. Pryke said. The Consulting Engineers Council, which was created in July, is hopeful that all these associations will join it.

Since summer, the council has set up a temporary office at 220 E. 42nd., New York 17, N. Y.; has been interviewing candidates for executive secretary and has been trying to settle on a financial structure. Mr. Pryke also reported the following progress:

- Efforts are being made to reduce premiums for Erros and Omission Insurance.
- Preparation of a code of ethics is under way.
- A model constitution for regional associations of consulting engineers is being drafted.
- A joint committee is being set up with the Engineers Joint Council to develop a manual of consulting engineering. (The American Society of Mechanical Engineers has produced a manual for mechanical engineers, but the Consulting Engineers Council is not in complete agreement with it.)
- The council will participate with the Producers Council, American Institute of Architects and the Construction Specifications Institute in an investigation of the possibility of setting up a manufacturers indexing system for consulting engineers like the AIA system. A start will be made on building construction.

Refined Cost Data Sought For Steam Power Project

Informed that a coal-burning steam power plant in Washington State's Roslyn-Cle Elum coal mining area is economically feasible, under certain conditions, the State Power Commission has authorized Ford, Bacon & Davis, New York, to refine cost calculations based on "letter of intent" equipment prices.

The consultant's completed first report placed a $5-million price tag on a 305,000-kw plant. It would operate six months a year with its output supplementing interruptible hydropower to be purchased from the Bonneville Power Administration. The resultant rate would be about a 5 mills per kwh, which compares favorably with power costs at some of the smaller hydro plants now under construction.

Feasibility of the scheme depends on purchase of secondary energy from BPA at a cited rate, sale of revenue bonds at a reasonable interest rate, the interest of coal mine owners in marketing their fuel to a steam plant, and the interest of utilities in purchasing the power.

The commission is thinking in terms of a 1959 date for plant operation.

Research Building Planned By Concrete Masonry Group

The National Concrete Masonry Association will build a laboratory for research in concrete masonry if present plans materialize.

The association has purchased a five-acre site in West Chicago, Ill. Necessary rezoning has been granted, and building plans are in preparation by John D. Jarvis, Chicago architect. After final acceptance by the NCMA directors, the project will be submitted to members for final approval.

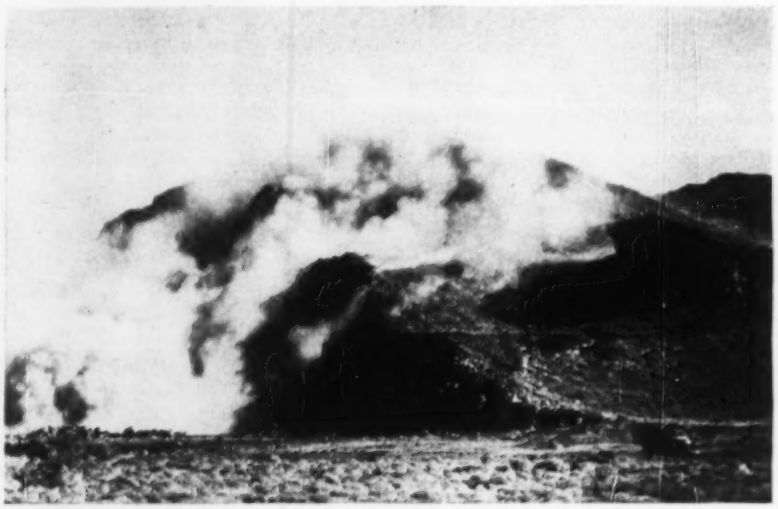
The building will be a one-story structure with 10,000 sq ft of floor space. Laboratories will occupy 6,000 sq ft, offices 4,000 sq ft.

Spring Start Is Assured For Water Supply Project

A new source of water supply for Seattle was assured when Mayor Gordon S. Clinton signed an ordinance passed by the City Council authorizing a $21-million bond issue to finance the project.

The Cedar River has been supplying the city for 55 years but its capacity is limited to 300 mgd, more than is needed now but insufficient for expected future growth. The Tolt River will become the new source of supply for the city. It will eventually furnish 150 mgd.

The city expects to call bids next spring for the first block of bonds in the new issue, amounting to $2.5 million to $3 million.



A Big Blast Supplies Fill for Big Job

This cloud of smoke, photographed at Lakeside, Utah on Nov. 20, is the result of the third largest non-atomic explosion ever set off by man.

More than 600,000 lb of explosives were used to provide almost 1.5 million tons of rock for the Southern Pacific Railroad's $49-million crossing of Salt Lake (ENR Mar. 22, 1956, p. 24).

The contractor, Morrison-Knudsen Co. of Boise, Idaho, will load the rock in railroad cars for placement in the lake.

To blow the cliff, eight "coyote holes" three feet wide and four feet high were drilled horizontally into the cliff for a distance of 150 ft. Pairs of 30-ft drifts of branches were made at right angles to the holes at the 75 and 150-ft marks in each tunnel. The shafts, approximating 2,200 ft were then loaded with pockets of explosive and backfilled with sand. Drilling was done with pneumatic equipment, and took two shifts of men six weeks to complete.

Because of its size, and the opportunity afforded to learn something more about the earth's crust, the blow-up was checked scientifically by the U. S. Coast and Geodetic Survey and by seismologists as far west as Berkeley, Calif., 700 miles away.

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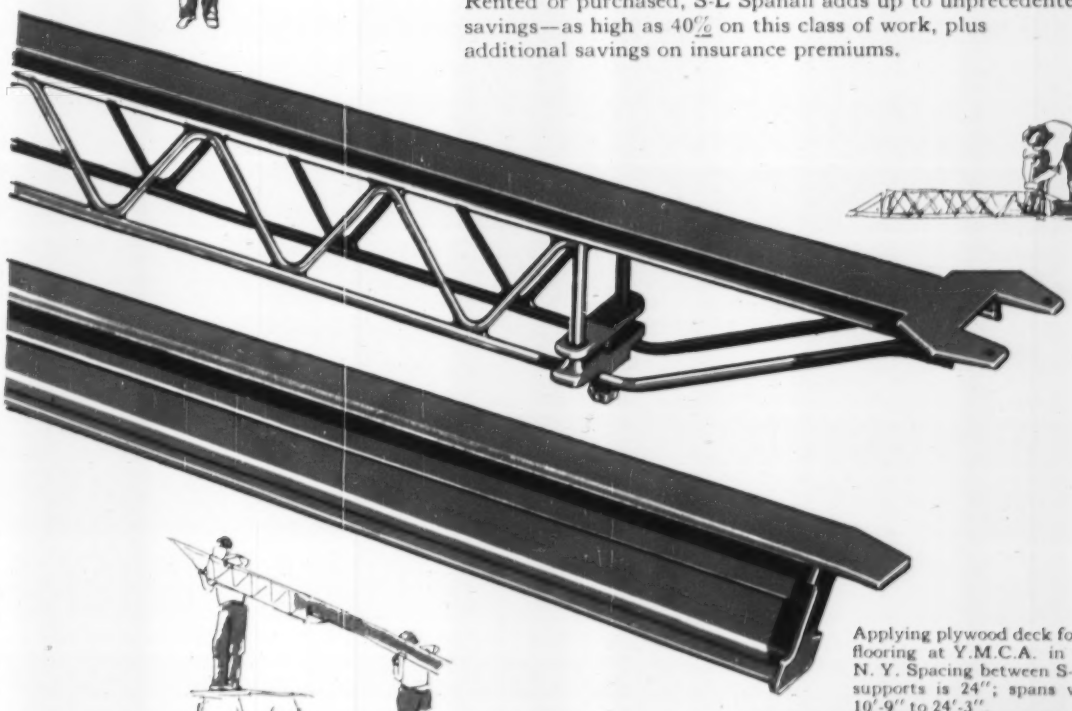

Applying plywood deck for concrete flooring at Y.M.C.A. in Syracuse, N. Y. Spacing between S-L Spanall supports is 24"; spans vary from 10'-9" to 24'-3".

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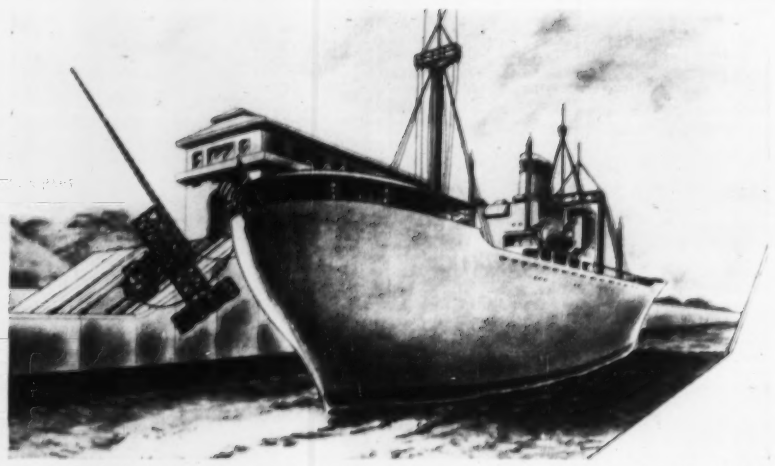

NEW ENGINE (at ship's stern) will have built-in fenders and line handling boom.

New Engines to Cut Panama Hauling in Half

The Panama Canal Co. has ordered a new type of towing engine that will halve the number of engines now needed in the canal.

The contract went to R. G. LeTourneau, Inc., of Longview, Tex.

The LeTourneau design calls for a rubber-tired bumper moving with the locomotive to fend the ship off the lock side.

This will permit handling of ships with locomotive on only one side of the lock wall, instead of on both sides as required with present equipment. Two locomotives will be sufficient to pull a ship through the locks where four were required previously.

The Canal Company has asked LeTourneau to deliver two prototype models within the next 14 months, at a cost of about $650,000.

The machines will be tested for about a year before the final order is given for delivery of an additional 25 units at a cost estimated to be more than $4 million.

• **Rubber, but on rails**—The new engines will make use of a dozen large truck tires, yet actually will travel on two conventional rails and a cog rail on the center wall of the canal.

The 12 tires will form a protective fender against which the ship's side can roll as it is being towed through the locks. Suspended over the side of the wall from the locomotive, the fender will be adjustable to a depth of 43 ft to permit contacts with ships at all stages of water level. The six center tires will protrude away from the wall and act only as a cushion for the ship itself. Only the three tires at each end of the fender will be recessed and will roll against the lock wall.

Another feature will be a 75-ft boom of lightweight tubing on each locomotive that will be used to lower lines aboard the ship. This will prevent fouling of lines and will also eliminate the necessity of rowing them to the lock wall in a small boat.

Parking Is Private Problem Under Proposed Zoning Law

New zoning laws designed to cope with an expected one-sixth increase in population in the next 45 years have been proposed by Milwaukee's city planning officials. The present zoning ordinance has been on the books since 1924.

The new law, which will not be applicable to old construction unless it is altered for some new use, includes these provisions:

- One off-street parking space must be provided for each dwelling, classroom, 10 church seats.
- Buildings will cover no more than 40% of a lot.
- Sideyard width for buildings must equal at least 10% of frontage.
- Multiple dwellings (more than 2-family) must have tots' play areas.
- Number of families per acre will be limited to 100.
- All business, including present open storage, must be conducted in buildings unless specifically exempt by code.
- Only those industries requiring water transportation or large quantities of water can locate in the Mississippi River Upper Harbor project.
- Slaughter houses and explosives factories will be banned.

On completion of public hearings now in progress at neighborhood locations and City Hall, the new code will be submitted to the City Planning Commission, the roads and bridges committee of the City Council, and finally to the full council.

Target date for passage of the law is January.

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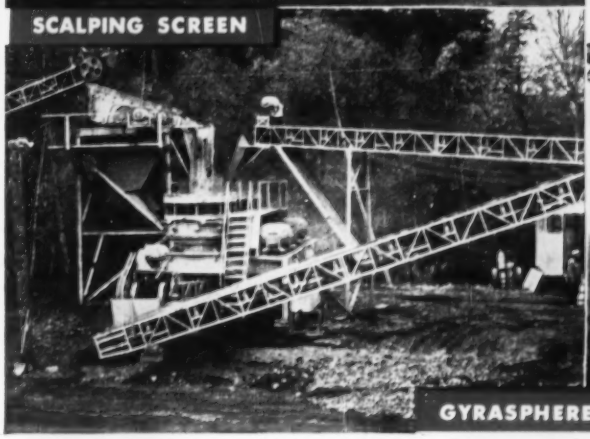

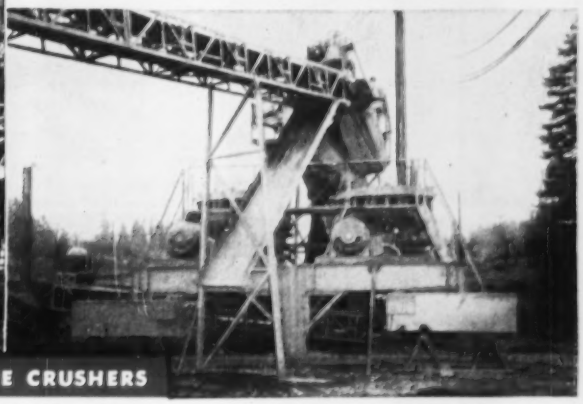

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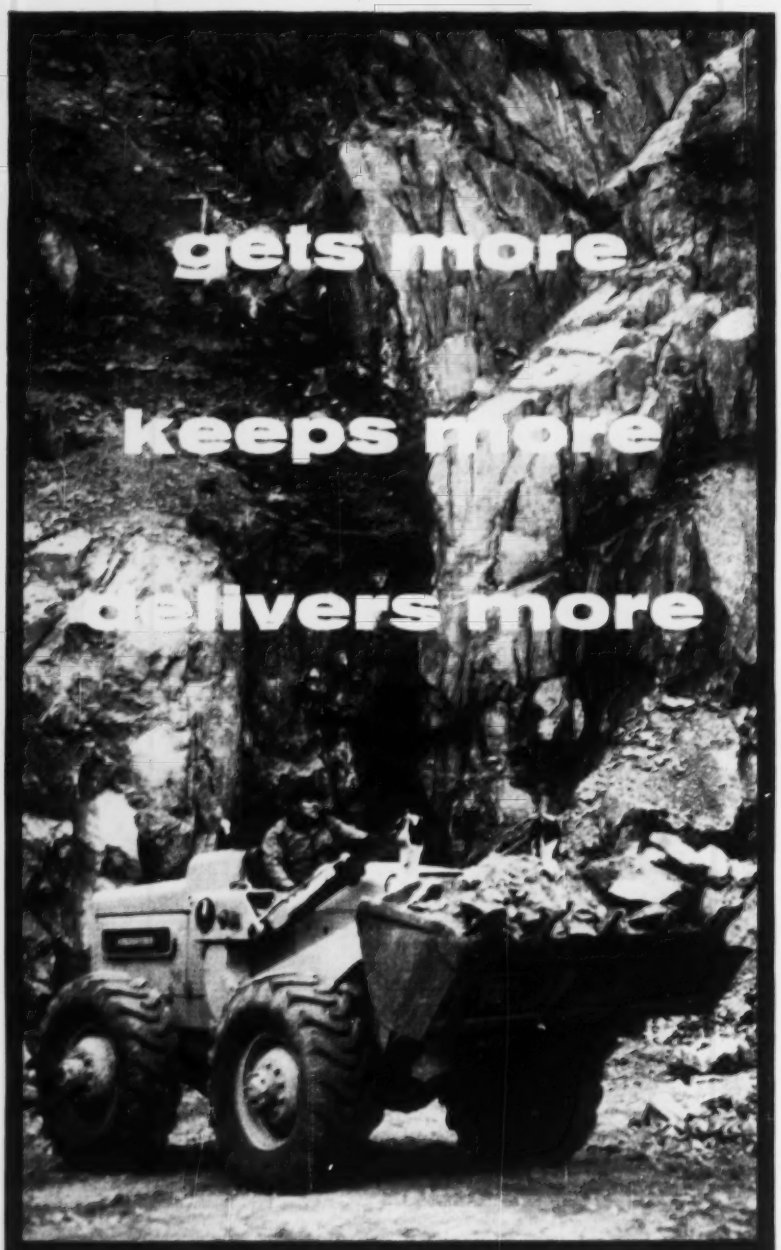

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Maintenance Aid

Highway department sets up its first weather station

The Connecticut State Highway Department has set up its first instrument-equipped weather station to aid in day-to-day planning of highway maintenance operations. The station, first of a planned seven, is now in operation at Groton.

Highway Commissioner Newman E. Argraves reports that the seven stations will be used solely for observation purposes and will provide no analysis of information or forecasting.

They will, however, serve areas not previously covered with regular weather service and will provide information that can be coordinated with weather data gathered by other agencies to be used for actual forecasting. Each station will be equipped with an anemometer, a recording thermometer, a microbarograph or recording barometer, and a rain gauge.

Other stations will be established at Wallingford, Newton, Fairfield State Hospital, Danielson, Stafford Springs, Litchfield and Canaan.

The project is being carried forward in cooperation with the Travelers Weather Service, the U. S. Weather Bureau, and the State Police Department. (Travelers Weather is a privately-owned service operated by Travelers Insurance Co. of Hartford.)

Florida Water Control Law Recommended by Study Group

The Florida Water Resources Study Commission, which has been making a year-long survey of Florida's water problems, will recommend enactment of a water management law by the 1957 state legislature.

Among other recommendations, the committee will suggest creation of a permanent Board of Water Resources to administer the proposed law and "to assure the fullest utilization of water resources by research, planning and implementation."

Means for regional control of water resources would be provided in the proposed law. One of these would be to delineate from time to time such areas within the respective regions where "diversion of surface or underground waters exceeds or threatens to exceed the natural replenishment of such waters or to render them unfit for use by reason of salt water intrusion or other causes."

The Board of Water Resources also would tackle the problems of water pollution, beach erosion, and lowering of groundwater levels in areas of heavy withdrawals.

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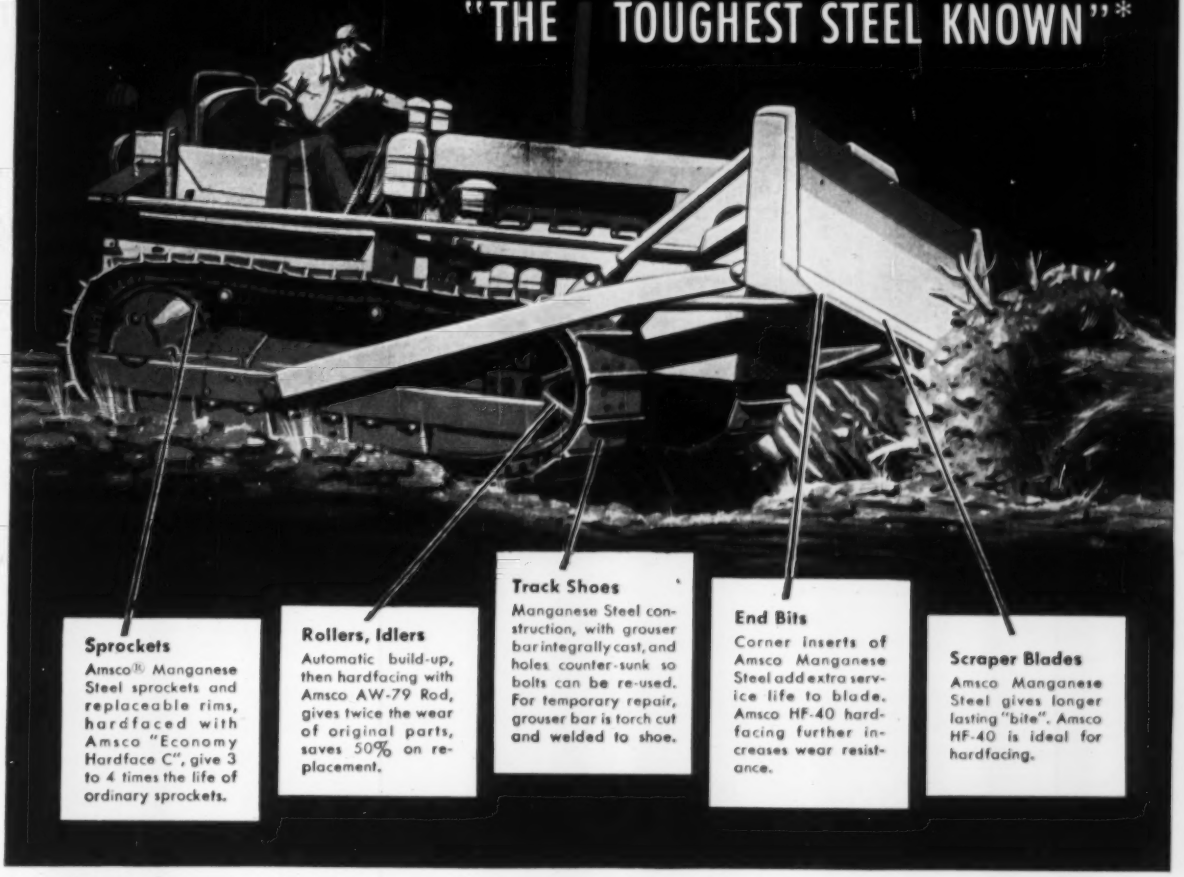

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Bedding of last underwater Section "A" puts tube phase ahead of schedule—

But . . .

Approaches Slow Hampton Roads Job

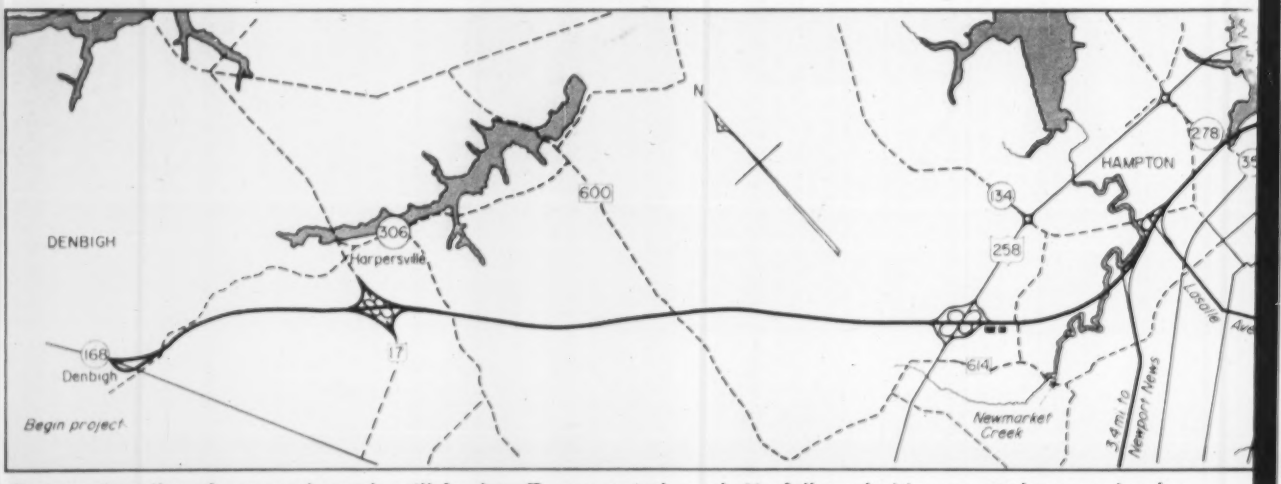
The last tunnel section of the Hampton Roads (Va.) Bridge-Tunnel is now in place. When jockeyed into position between sections 20 and 22, the last of 23 tunnel segments closed the final gap in the 6,900-ft underwater section of the 3.5-mi-long crossing. At the same time, it closed the most difficult phase of construction on one of the largest tunnel operations of its kind (ENR, Sep. 15, 1955, p. 30).

The long crossing will replace a ferry service now operating between Willoughby Spit, Norfolk, and Old Point Comfort across busy Hampton Roads, point of juncture between the Elizabeth, Nansemond and James rivers with Chesapeake Bay.

Water operations, in addition to the tunnel portion, have included construction of portal islands at each end of the tube and 10,000 ft of trestle connecting the islands with the spit and with the Hampton area.

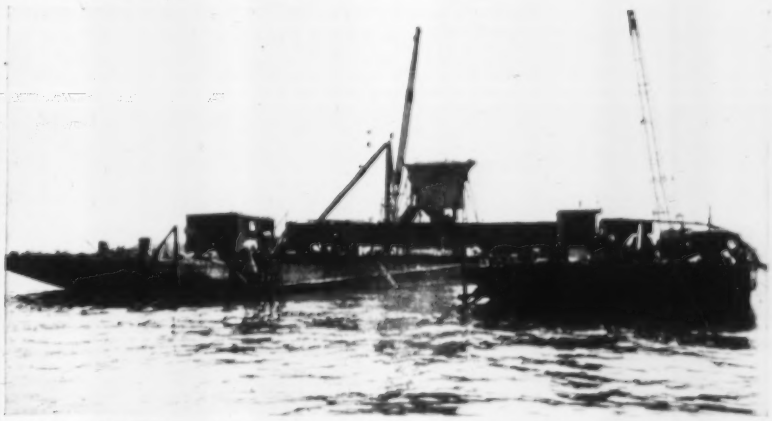
There remain only the tremie casting of the joints between the last sections, the filling of their tremie pockets and backfilling over them to complete underwater operations. After that, all work of cutting end bulkheads of the 300-ft-long sections, casting of finishing concrete and outfitting operations—will be done inside the tunnel, working from the man-made approach islands at either end of the tube.

Sinking of the final section, September 30, put the tunnel portion well ahead of the original schedule set by engineers of the Merritt-Chapman & Scott Corp, contractors on the trestle-tunnel portion of the system. However, storms, particularly a severe one in June,



Twenty-six miles of approach roads will feed traffic nonstop through Norfolk and cities on northern peninsulas

◀ **TRESTLES NEAR COMPLETION and island construction progresses. Last tube section at "A" is in place in bay-bottom trench.**



SCREED BARGE works over positioned tube section as engineer (foreground) maintains continuous check on line and depth of submerged segment.

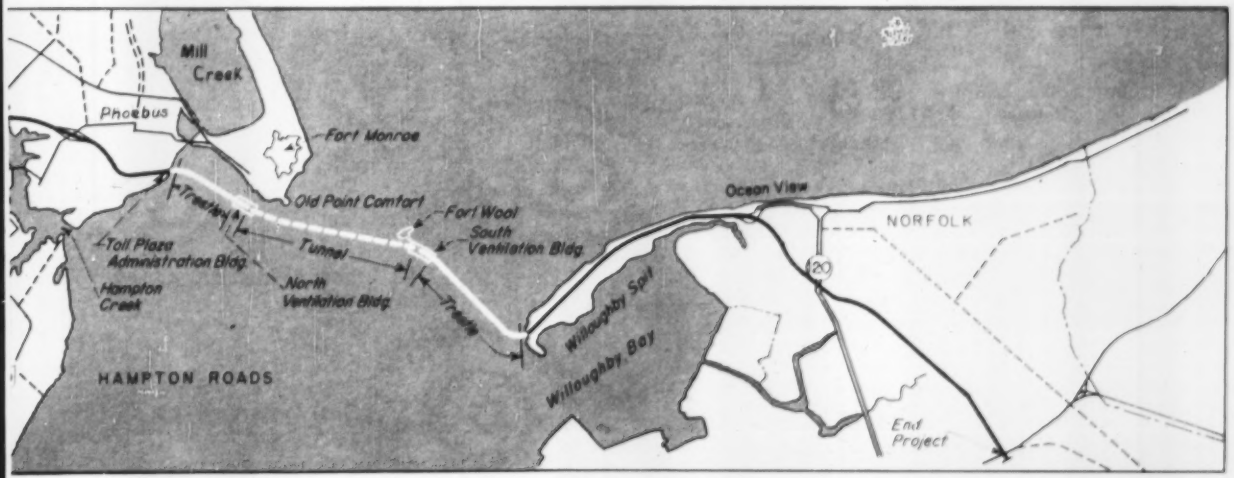
PRECAST, PRESTRESSED GIRDERS are barged to work site. Note camber in members that span two-pier bents set 50 feet apart c-c.

1955, deprived R. I. Senn, MC&S project manager, of having all sections in place within a 12-month period.

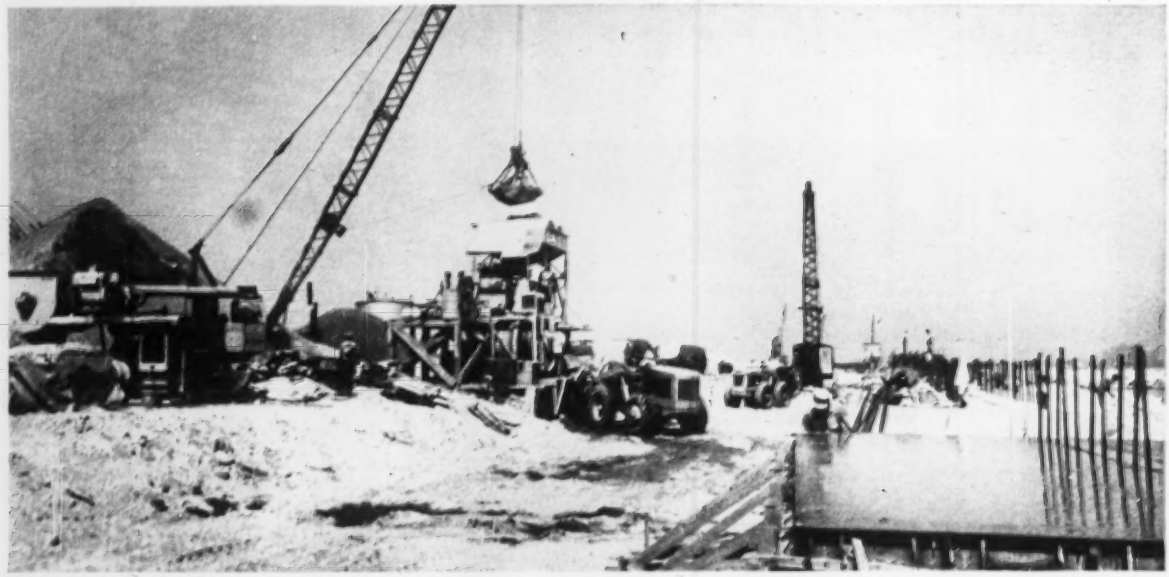
The storm had other effects, too. It demonstrated that hurricane protection on the South Island, which is exposed to open Atlantic surf, was not heavy enough. The sea swept away the south corner of the island, broke through the causeway that connects the island with historic Fort Wool and washed out a large section of eastern shore.

Parsons, Brinkerhoff, Hall and Macdonald, consulting engineers, redesigned hurricane protection, and additional bulwarking is almost completed.

• **Island with backbone**—Realizing after



and beyond. Scheduled completion of approaches by June, 1957 has been set back by shortage of bridge steel.



ADDITIONAL HURRICANE PROTECTION goes into place. Monoliths are cast in "quick-break" steel forms, with batch plant serving bucket-mounted, rubber-tired loaders that transport concrete to placement site.

the June storm that the island needed substantial reinforcing, PBH&M designed the new protective system with two trapezoidal dikes, the outboard one to act as a corestone running from El. −4 to El. −12.

The other, at +5 to −3, was set 42 feet inboard of the first, with tailings (¼ in. to 8-in. uniformly graded stone) placed at a slope of 1:4 to within two feet of the dike crowns.

Next was placed a 6-in. blanket of No. 4 (Va.) aggregate, topped by 18 in. of tailings. Topping the system is a 4-ft heavy riprap course of 3-ton stones.

The protective system, running the full length of the eastern shore of the island and around its southern end, is backed by a stepped-up seawall composed of 25-ft-long monoliths in three lifts, with a base dimension of 15 ft and a height of 13 ft. The seawall is placed on an aggregate bed topped by a single course of bagged riprap.

Monolith protection is discontinued as it makes the swing onto the 300-ft connection between the island and Ft. Wool, but the causeway is protected on either side by a corestone and courses of aggregate, bagged riprap and 3-ton stone riprap.

The north island, which connects the tunnel section with Hampton, is sheltered from the open sea by Old Point Comfort, and like the western shore of the south island, is adequately shielded by hurricane protection as originally planned.

Restoration and protective work, almost completed, is being done by the W. F. Magann Corp., of Portsmouth, Va. as subcontractor of M·C&S.

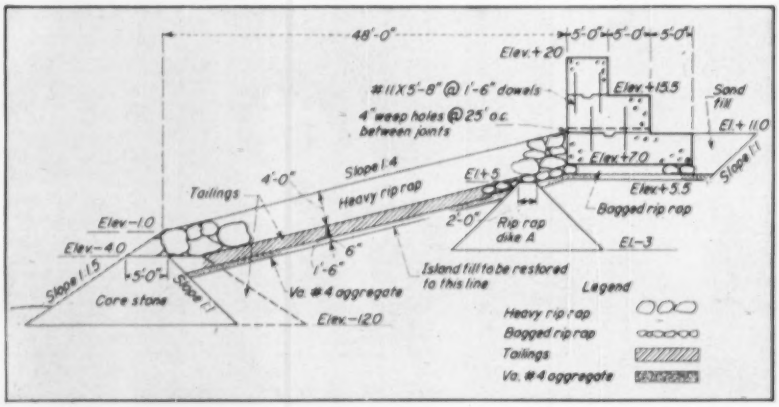
• **Approach headaches**—Most troublesome phase of the Norfolk-Hampton project is a 26-mi system of limited access approach highways, which will swing traffic through and over Norfolk, Phoebus and Hampton. Construction of the approach highways—now slightly behind schedule—has been affected on three fronts:

1. An alignment squabble on one section of the system delayed its start just long enough to run into tightened deliveries on steel. Result—additional delay in commencement of construction, with postponement of a scheduled mid-summer start into the last quarter of this year.

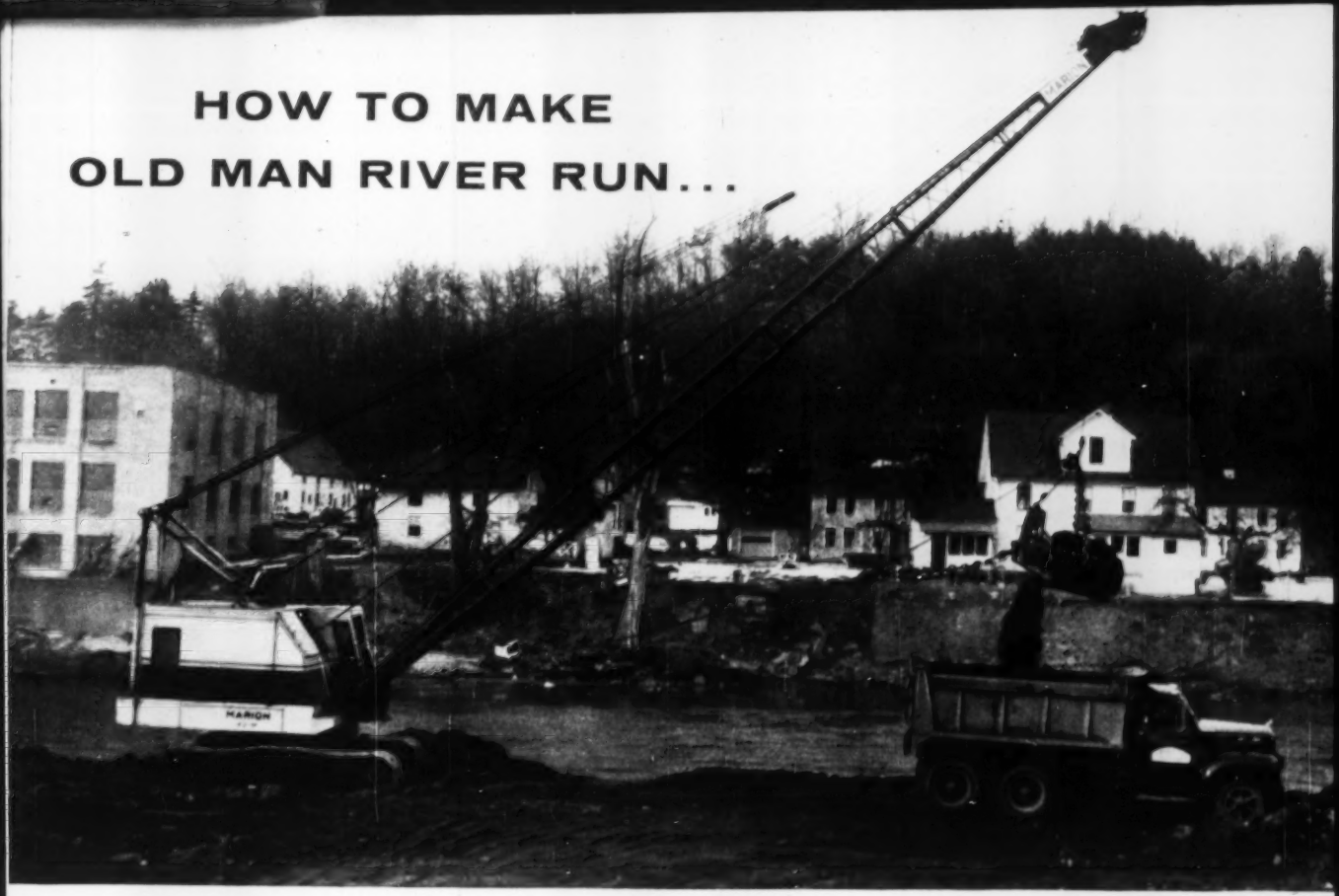
2. Shortages of steel rolled sections and built-up shapes have resulted in a pull-out of all highway sections not under contract and redesign of structures in those sections with precast, prestressed stringers.

3. Again on the steel supply front, commencement of construction on two bridges (Hampton Creek and Newmarket Creek) was scheduled on the basis of a 12-month delivery on steel, with a proposed opening date set for June, 1957. At present, with initial steel delivery set back to April, completion can't be accomplished before September or October of next year.

The approach highways in the Hampton area will cost an estimated $12.5 million to build. Construction of the Norfolk system is figured at $6.5 million. Right-of-way acquisition is estimated at about $3 million, but in the light of present knowledge it is believed that unforeseen high costs of land on the Hampton side may result in the one



DOUBLE DIKE AND RIPRAP form the protection for exposed areas of the south island. Monoliths (right) back up protection system to an elevation of +20 feet.



Dragline Puts New Life into Connecticut Stream

This 1¼-yard Marion dragline was just what the doctor ordered to cure the ailments of the Farmington River near Unionville, Connecticut.

The channel needed clearing and deepening, bank protection needed strengthening, and a few places along a 1½-mile stretch needed widening. Engineers figured 50,000 cubic yards of surgery would make the patient good as new.

A Marion 43-M, swinging a 1¼-yard bucket on a 70-foot boom, rearranged the river bank landscape at a fast clip, as much as 1400 yards of material per 10-hour shift. Sand, gravel and rock were stacked in new places or hauled away.

This nimble Marion, with its long, wide self-cleaning crawlers and low bearing pressure, adds daily to its cross-country ditch or stream cleaning reputation. Contractors like its many other features too, such as field conversions with no deck machinery changes and fast-acting, easy-operating air controls. Let your nearest Marion Distributor tell you how this Marion can be good medicine for your jobs, too.

Whatever your job requirement, there is a Marion machine of the right size and type for greatest efficiency

MACHINE	SHOVEL CAP. IN CU. YDS.	HOE CAP. IN CU. YDS.	CRANE RATINGS			ASK FOR BULLETIN NO.
			CRAWLER MOUNT MAX.* STABILITY	CRAWLER MOUNT MAX. USABLE	TRUCK MOUNT MAX. USABLE	
MARION 35-M	¾	¾	18T @ 10′	18T @ 10′	25T @ 10′	431
MARION 43-M	1	1-1¼	22T @ 10′	20T @ 12′	35T @ 12′	430
MARION 362	1½	1½-2	43T @ 12′	30T @ 15′		398-D
MARION 87-M	Special Crane		150T @ 12′	75T @ 15′		
MARION 93-M	2½		80T @ 12′	50T @ 15′		397-F
MARION 101-M	3		84T @ 12′	57T @ 15′		417-A
MARION 111-M	4		169T @ 12′	105T @ 15′		402-C

*For Comparison Purposes Only

MARION POWER SHOVEL CO.

MARION, OHIO, U. S. A.

Please send me Bulletin 415 on the Marion 43-M.

Name ..... Title .....

Company .....

Address .....

City ..... State .....

EXTRA STRENGTH and DURABILITY ...for Your Rock Drills and Other Heavy Duty Air Tools

"SUBWAY"®

"Standard of Quality"

"Subway" is built with that *extra* measure of strength and durability that assures uninterrupted delivery of maximum air power to the drills, even when the "going" is roughest. Light weight, flexible, easy to handle. Specifications include oilproof tube; highest quality wrapped duck carcass; wear- and weather-resistant red rubber cover, with new criss-cross yellow stripe for positive identification. Sizes ½" to 1¼", I.D., in maximum lengths of 50 feet.

EXTRA SAFETY ...For Your Caissons and Manifolds

"Standard of Quality"

"ALLGOOD CORD"®

"Allgood Cord" . . . long famous for its outstanding strength and safety for three most important air hose applications—supplying air to caissons where human lives are at stake; feeding air to Jumbos where a shutdown would affect not one but a battery of drills; and as a main air line to shovels in tunnel headings. Specifications include black synthetic tube special kink-resistant wrapped duck carcass; wear-resistant white rubber cover.

"Allgood Cord" is made in sizes 1½" to 4", inclusive, in maximum lengths of 50 feet.

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HOSE • BELTING • FOOTWEAR • CLOTHING AND OTHER INDUSTRIAL RUBBER PRODUCTS

GOODALL *Rubber Company*

GENERAL OFFICES, MILLS and EXPORT DIVISION, TRENTON, N. J.

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serious cost over-run on the entire Hampton Roads project.

• **Early opening discarded**—For some time there was hope that the trestle-tunnel section of the system would be opened several months prior to completion of approach construction.

Reasons given were that a festival, marking the 350th anniversary of the settlement of historic Jamestown, was scheduled for several months during the summer of 1957. It was thought that an early opening of the bridge portion of the facility would aid traffic movement.

The opening of the bay crossing portion could have been accomplished, had the Hampton and Newmarket Creek Bridges been on schedule. PBH&M had hoped to open the system from the Willoughby Spit approach to Route 258, five miles north of the Phoebus toll plaza, but delay of the two bridges along the route has squelched the possibility.

• Prime Contractors

Underwater work: Merritt, Chapman & Scott Corp, New York City; Tidewater Construction Co., Norfolk; Atlas Tile and Marble Co., New York City.

Trestles: Merritt, Chapman & Scott Corp., New York City;

Approach system: Norfolk side (One contract completed)—Ames & Webb, Inc., Norfolk; Hampton side—George M. Brewster, Bogota, New Jersey; Joint venture—E. V. Williams, Norfolk; Sanford Construction Co., Sanford, N. C. and Scott Construction Co., Franklin, Va.; Bowers Construction Co., Raleigh, N. C.; Nello L. Teer Construction Co., Durham, N. C.

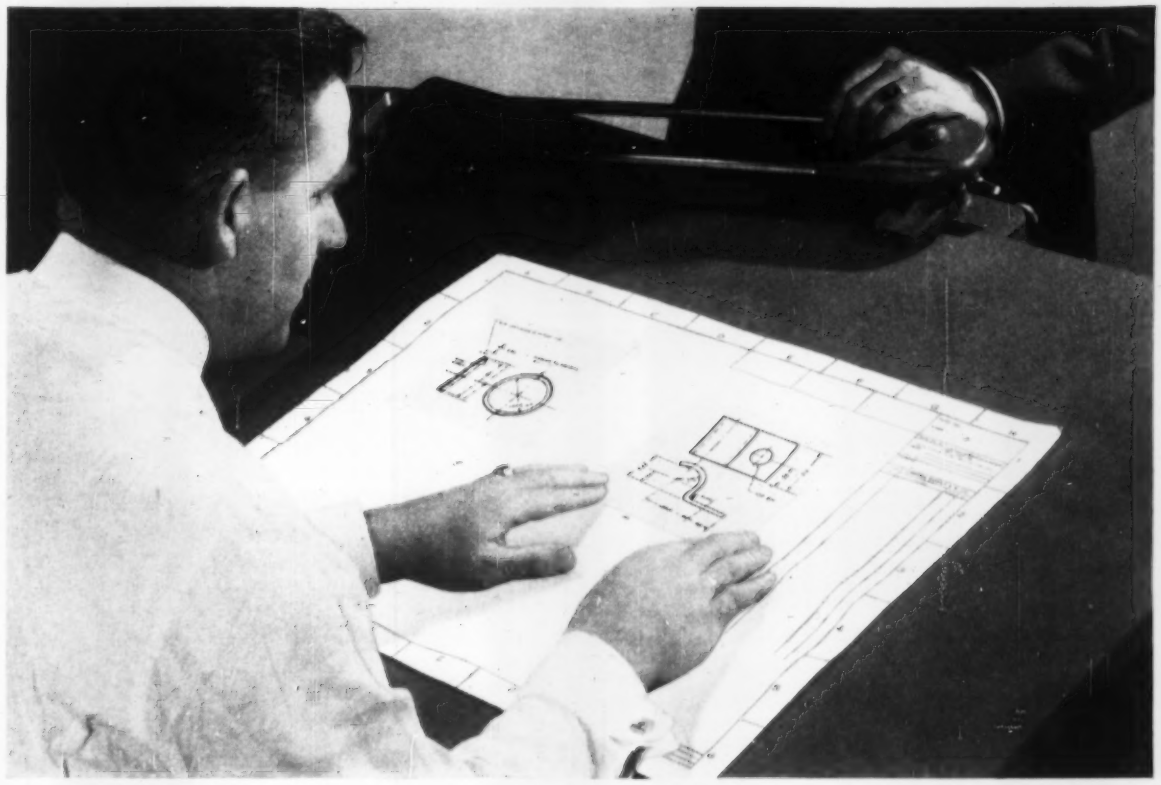
Toll plaza and administration building: Virginia Engineering Co., Newport News, Va.

Long Sought Garage Project Under Way in San Francisco

Ground has been broken for the long-discussed $3.5-million Ellis-O'Farrell Garage to be located in downtown San Francisco.

The garage started out to be a project of the San Francisco Parking Authority, which planned to spend $1.8 million to buy the site and then lease it to someone who would build and operate the garage. But a private corporation Ellis-O'Farrell Corp., took over the project, including cost of the site, so that the Parking Authority could use the funds for other off-street parking facilities.

The garage, which will have seven levels accommodating 900 cars in a reinforced concrete structure, is being built by Cahill Construction Co., San Francisco.



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1. Position the Autopositive Film templates on a drawing form, using transparent tape
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3. On this print, add the connecting lines or new design . . . and a new print-making master is ready.

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New booklet is jam-packed with valuable tips on saving drafting time, protecting drawings, getting better prints.

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Graphic Reproduction Division, Rochester 4, N. Y.
Gentlemen: Please send me a free copy of your new booklet on Kodagraph Reproduction Materials.

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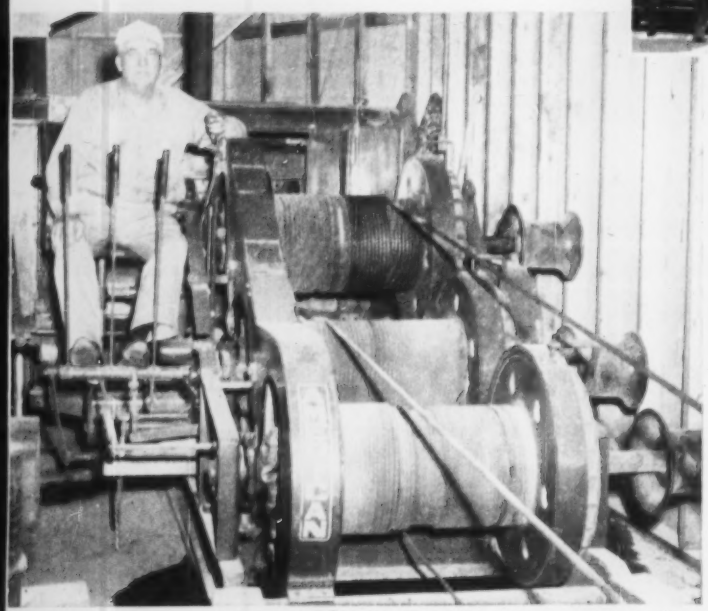
Kodak
TRADE MARK

8-STORY ADDITION STARTS 70 FEET UP!

American Carries the Load

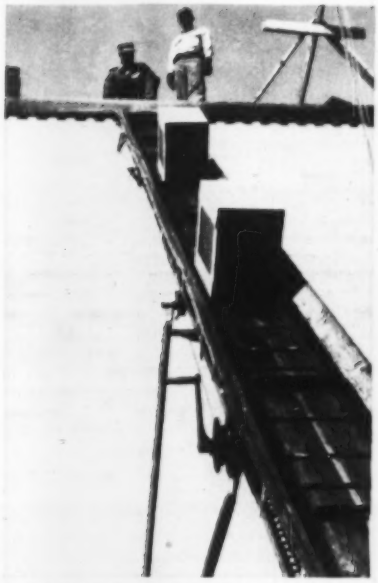
An 8-story addition *on top* of the Federal Reserve Bank of Minneapolis kept an American 3-Drum Hoist in full operation from the first day on the job! Because the 6-story bank building was occupied, all materials for the job, except the steel, had to go up the hoist. As the job progressed, the double-well tower rose to a height of 225 feet! The American Hoist got a real workout on this job—long, heavy hauls clear to the top demanded plenty of steady power and easily controlled clutches. "Dropping" the elevator cars as much as 200 feet meant the brakes had to take hold firmly, smoothly without fail every time! Lives depended on the American Hoist—and profits too, because it was the only link between the ground and the job! Here's what went up on the American Hoist: 4,000 yards of concrete; 1,000,000 bricks and tile pieces; 6,000,000 pounds of plaster; 5,000,000 pounds of Indiana limestone; 1,000 windows, and 1,000 spandrels—plus equipment and materials for plumbing, heating and air conditioning!



It's workhorse dependability on big jobs like this that makes American the number one choice of contractors! Your distributor has all the details about the complete hoist line that starts with capacities of 3,000 pounds single line pull!

AMERICAN 3-DRUM HOIST used by general contractor, Naugle-Leck of Minneapolis during construction of the 8-story bank addition.

AMERICAN HOIST
and Derrick Company
St. Paul 1, Minnesota



PORTABLE CONVEYOR raised insulation (Foamglas) to warehouse roof, where . . .

PARALLEL LINES of steel bulb tees were laid across the roof joists at 2-ft intervals to support the insulation units. Two layers were installed.

INSULATION UNITS were set directly on the tees, eliminating a separate roof deck.

SECOND LAYER of insulating units, set in hot asphalt, overlaps the joints in the first.

Cold-Storage Depot Gets a Novel Roof

Rigid insulating units of cellular glass type (Foamglas) form both the roof deck and insulation for a 134x93-ft cold-storage warehouse constructed for the Fleming Co., Inc., Wichita, Kan. The units were set in two layers with a total thickness of 7 in.

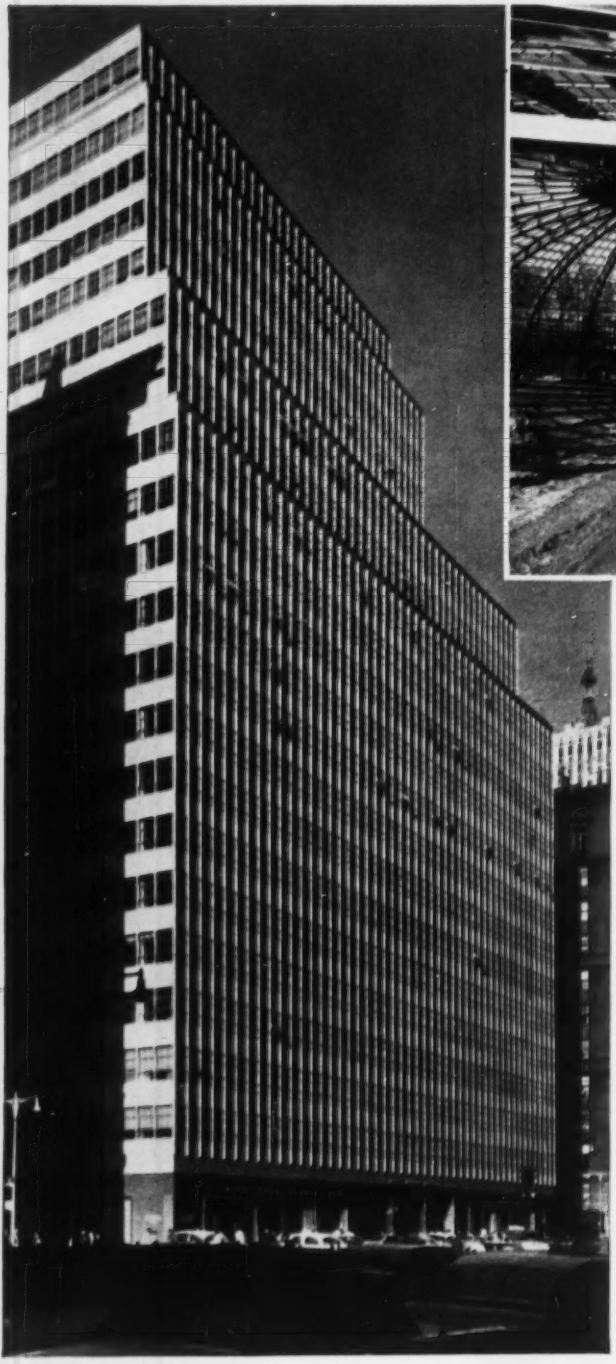
Each unit is supported along its ends on steel bulb tees spaced 24 in. c-c and spanning 8 ft between open-web steel joists. There is no other roof deck under the insulation. Heretofore, a deck has been provided to support such units in roof construction.

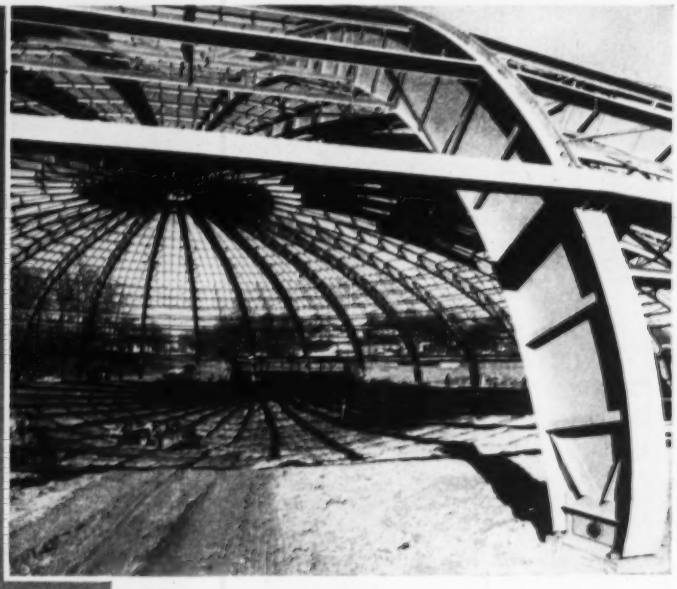
The first layer consists of 18 x 24-in. by 4-in.-thick units, shaped to fit the bulb tees and adhered with asphalt. The 3-in. thick second layer was bonded to the first with hot asphalt and overlaps the joints in the bottom layer. The insulation is topped with built-up roofing.

Warehouse walls of concrete block are insulated with 6 in. of cellular glass and the concrete floor, with 5 in.

Parr & Aderhold, Oklahoma City, are the architects. Vollmer Construction Co., Wichita, is the contractor.

ON THE NEWS FRONT WITH STRUCTURAL STEEL





PHYSICAL EDUCATION CENTER

At Atlanta is the new Alexander Memorial Physical Education Center, built for Georgia Tech. The circular structure, shown here under construction, is 75 ft high at the central point and is made up principally of 32 welded steel girders reinforced by purlins. The girders were placed in opposing pairs around a central support which was later removed. Bethlehem supplied much of the steel used in the new Physical Education Center. *Architect:* Aeck Associates; *General Contractor:* Mion Construction Company; *Steel Fabricator and Erector:* Calvert Iron Works, Inc. All are Atlanta firms.

300 PARK AVENUE

This 25-story office building is one of many attractive new commercial buildings rising along Park Avenue in New York City. The new office, built on a framework of 5400 tons of Bethlehem Structural Shapes, has continuous bands of windows surrounding it on four sides. *Architect:* Emery Roth & Sons; *Owner:* Uris Brothers; *Steel Fabricator:* Harris Structural Steel Co., Inc.; *Engineer:* James Ruderman. All are New York firms.

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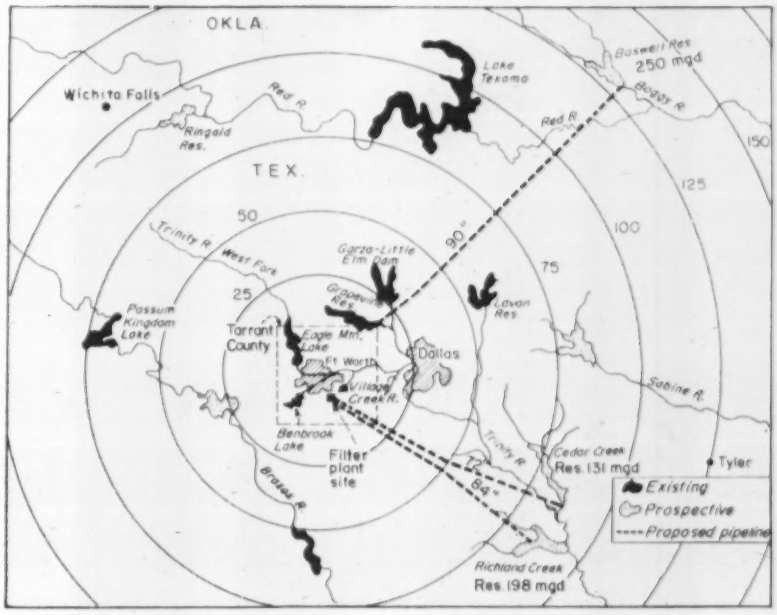
Planning for Water in a Thirsty State

Even for Texas, the water supply plan Fort Worth recently received from its consultants is man-size. A 680-mgd supply, the ultimate need, from sources as much as 127 miles away has been proposed. Through the year 2000, a more modest 367 mgd of new sources are to be developed at a cost of $127 million for a total 430-mgd supply. And another $12 million is to be spent in this period for 250-mgd of water supply rights in a Corps of engineer reservoir planned on the Boggy River in Oklahoma.

Fort Worth's long-long-range plan comes none too soon. In water-short Texas, cities now realize they have to move fast to preserve future water rights. Texas' unusual conglomeration of riparian and statuatory-rights water laws obliges cities to present formal requests for future sources to the State Board of Water Engineers for permits if riparian irrigators and lower-class appropriative users aren't to get the water. Fort Worth has already lost a fair-size close-in water source, by not being ready when Benbrook Reservoir waters were dedicated to flood control and navigation purposes some years ago.



FORT WORTH looks for water 127 miles away, past year 2000.

• **The plan**—The broad-gage scheme, prepared by Freese & Nichols, Fort Worth, proposes the following:

• By 1960, construct a reservoir on Cedar Creek with safe yeild of 131 mgd and a 72-in., 79-mi pipeline at a cost of $48 million. Also purchase land for the Richland Creek Reservoir for $2 million.

• By 1966, acquire water storage rights for 250 mgd safe yield from Boswell Reservoir for $12 million.

• By 1972, construct a reservoir at Richland Creek with safe yield of 198 mgd costing $22.5 million.

• By 1984, construct 84-in., 79-mi pipeline from Richland for $35.7 million. Also enlarge existing reservoirs at Grapevine and Eagle Mountain for 38 mgd additional yield at cost of $9 million.

• After 2,000, when demand warrants, construct a 90-in., 127-mi pipeline from Boswell Reservoir.

• **Must move quickly**—Fort Worth has to move fast because preliminary applications for water appropriations for Cedar Creek and Richland previously made to the State Board of Water Engineers will soon expire unless the city indicates it is going ahead with detailed engineering studies. Normally, state waters can't be reserved as far ahead as the Richland proposal (although later, a domestic user can take water away from a lower class user, but at a price). In this case, Richland and Cedar Creek are considered as one project and the consultants believe the state board will allow a 1972 completion date.

Fort Worth also has to decide soon on the Boswell proposal so it can be included in an interstate compact for disposition of the waters of the Red River. The consultants have planned for the $12 million outlay at the time Boswell Dam is constructed on a tributary of the Red River by the Corps of Engineers (for flood control.) However, the last U. S. Congress authorized federal agencies to leave space in their river structures for future municipal water supplies, so the city may not have to start paying until it actually uses the water.

• **Firming up yields**—Fort Worth's existing water supply is drawn from groundwater, Village Creek and the Trinity West Fork Reservoir System. Safe yield is presently 81 mgd, but by 2000 A.D. it will decrease to 65 mgd. All safe yield calculations in the long range plan have been increased by reason of the diversity of watersheds. Instead of a 24-month reservoir reserve at the end of the critical drought period, 12-month reserves were employed in figuring Cedar Creek, Richland and the present sources, and 6 months was used in the Boswell calculation.

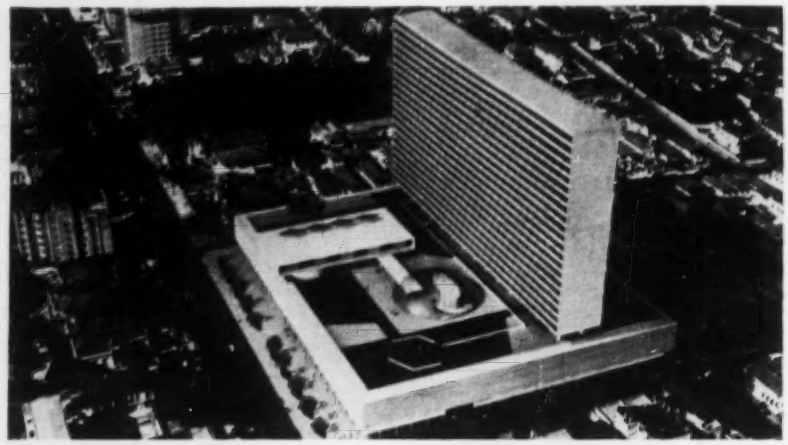
Estimated water requirements for the Fort Worth service area which is to include all of Tarrant County, based on 200 gal per capita per day beyond 1980, are: in 1960, 98 mgd; 1970, 165 mgd; 1980, 237 mgd; and in 2000, 344 mgd. Transmission lines are to provide for the average annual requirement from the source (safe yield) while storage capacity within Tarrant County will iron out daily and monthly peaks.

• **Quality considerations**—Water quality in Cedar Creek is excellent, with a hardness of 53 ppm. Richland water is not as good, its 130 ppm hardness equaling the existing supply. Boggy River water is at present "satisfactory" for domestic use.

It is adverse water quality that forces Fort Worth to go so far for water. Dallas is being served by Garza-Little Elm, Lavon and most of Grapevine's yield and has first claim on Sabine River. Brazos River water, besides being in another watershed, is inferior for municipal use. It contains 630 ppm of chlorides at Possum King and substantially the same downriver. Water in Lake Texoma, a federal project, is only slightly better at 420 ppm. Quality of water at Ringold, on a tributary to the Red River, is satisfactory, but the city of Wichita Falls has first call.

The Tarrant County Water Control and Improvement District Number One, now supplying areas outside of Fort Worth, would carry out the grand plan for the whole county.

In Brazil . . .



Super-Shopping Center Is Begun . . .

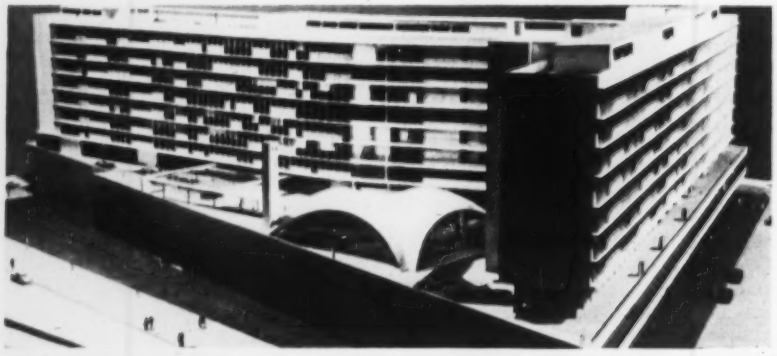
Sao Paulo, Brazil's second city, is going the supermarket one better. Conjunto Nacional, a super shopping center now under construction, will provide housing right on the premises for customers.

A 6-story base section one block square will contain a supermarket, stores, banks, restaurants, theaters and an 800-car garage. Topping the commercial block will be a 23-story apartment house.

The apartment house, framed in reinforced concrete and stiffened by shear walls and elevator-shaft walls, will rest on a reinforced concrete platform raised above the market section. Supporting the platform will be two rows of columns (30 in all) extending down through the six lower floors to footings founded on hard clay 50 to 65 ft below grade.

Wide faces of the apartment house will be window bands separated by spandrels at floor levels. End walls will consist of precast concrete elements. Apartment house dwellers will enter the shopping center by way of elevators, ramps and moving stairs, accessible from a landscaped roof garden and playground that is situated atop the commercial block.

Designed by architect David Liebeskind, the project is owned by Horsa Imobiliaria S. A. Engineering and construction is being handled by Constructors Warchovchik Neuman Ltda. Walter Neuman is the chief engineer.



. . . And Another Is Planned

Rio de Janeiro, like Sao Paulo (see above), will have a super shopping center soon. Conjunto Cidade de Copacabana, a project scheduled to get underway in January, will have a 3-story base block occupied by businesses and community services, and a T-shaped 9-story superstructure above containing apartments and offices.

The entire building will be elevated on stilts, with the lowest floor 26 ft above street level. The third floor (top floor of the base block) will be partly shops, partly roof garden and playground. Also on this level, a modernistic church will be erected.

Other services for the apartment dwellers will include 352 shops, a theater, movie house, restaurant, night club, school, auto repair shop, and 400-car garage.

Estimated to cost $5 million, the project was financed by Orlando Macedo and designed by Henrique Mindlin, architect.

India Estimates Its Power Potential at 35 Million kw

Expected to be completed in 1958, a survey of India's hydro power potential by the country's Central Water and Power Commission has already covered three of the six regions involved, permitting an estimate of the final result. This will be in the neighborhood of 35 million kw, it is said. The survey has already shown that on the west-flowing rivers of the Western Ghats there are 26 possible projects aggregating 3.7 million kw; on the east flowing rivers of southern India, 43 projects totaling 6.8 million kw; and on the rivers of Central India, 36 projects totaling 3.9 million kw.

Still to be surveyed are the Ganga Basin, the Brahmaputra Basin and the Indus Basin.

Kashmir's Banihal Tunnel Scheduled for '58 Finish

The Banihal Tunnel in Kashmir, which is being built by the West German firm of Baresel & Kunz, at a cost of $8 million (ENR June 7, p. 94), will be completed by December, 1958.

The 1½-mile tunnel will have two tubes, each 16¼ ft wide and 18 ft high, allowing for one way traffic.

The first tube, now holed through, is to be opened to traffic by the end of this year.

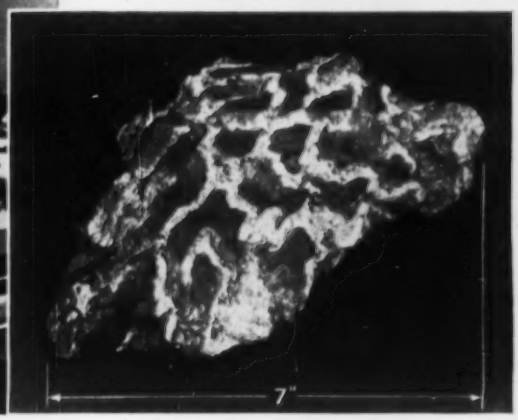
Traffic of 250 vehicles per hour in each direction (capacity at peak—400 vehicles per hour). Fresh air will be blown into the tunnel in the direction of and behind the traffic moving in the tube.

Pedestrian traffic will enter the tunnel by separate short tunnels and will join the main tunnel at about 300 ft beyond the portals.

When completed in 1957, glamorous Habana Hilton Hotel will cover a full city block and be Cuba's largest. Resting on a firm INTRUSION-PREPAKT foundation, it will have 630 rooms in its 22 stories and be completely air conditioned.

Owner: Federation of Culinary Workers of Cuba
Agent and Contractor: Frederick Snare Corporation
Consulting Foundation Engineers: LeRoy Crandall & Associates and Prof. Jose Menendez

Unretouched photo shows how porous Pleistocene coral (white) was filled with INTRUSION grout (gray). Over one million gallons of INTRUSION grout were pumped into hotel foundation.



newest Hilton hotel rests on grout-intruded coral

INTRUSION-PREPAKT grouting techniques have assured a strong, stable foundation for the Habana Hilton now under construction in Havana, Cuba. The porous coral rock under this $14 million structure was strengthened by pumping some 147,000 cu. ft. of INTRUSION grout.

Faced with a foundation material that could not take the footing pressures, Consulting Engineer Jose Menendez called in INTRUSION-PREPAKT. With their extensive experience in foundation stabilization, I-P engineers demonstrated that grouting would provide the best and lowest cost answer to the problem.

All grouting work was done by trained INTRUSION-PREPAKT crews and completed on schedule. The use of INTRUSION grout with its high strength, excellent penetrability and ease of handling assured that all voids would be filled and maximum strength developed.

When difficult foundation problems arise, perhaps you, too, can save time and money with INTRUSION-PREPAKT methods and materials. For information, contact: INTRUSION-PREPAKT, Inc., Room 568-B, Union Commerce Building, Cleveland 14, Ohio. In Canada: INTRUSION-PREPAKT, Ltd., 159 Bay St., Toronto, Ont.

INTRUSION-PREPAKT, INC.

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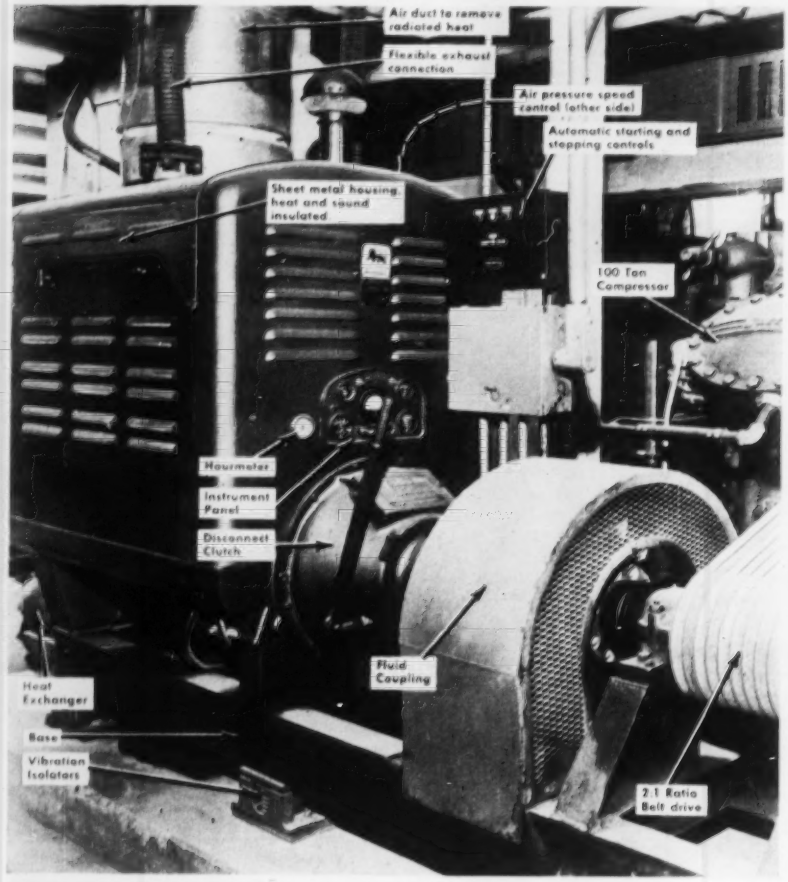
Intrusion and Prepakt are trade marks of Intrusion-Prepakt, Inc., whose methods and materials are covered by U. S. Patents Nos. 2315110, 2355904, 2434303 and others, also patents pending.



Natural-Gas Engines Run Air Conditioners

Natural-gas engines for air-conditioning systems are now offered by the Le Roi Div. of Westinghouse Air Brake Co., after two years of tests described as highly successful.

For the past two seasons, two of the V-8 engines (Model H540) have powered two 100-ton reciprocating compressors in the Columbus, Ohio, office building of the Ohio Fuel Gas Co. Gas cost, translated into electrical equivalents, was ¾¢ per kwhr. Electric power in the area costs more than twice this much, Le Roi says. Savings the first season totaled $6,000.

Ratings of available engines will range from 75 to 100 hp. Fuel consumption is said to be 10 to 12 cu ft per hp-hr. The engines operate at variable speeds. In the Ohio Fuel Gas test system, designed by Robert S. Curl & Associates, of Columbus, automatic controls regulated engine operaton according to cooling loads in the range 12½% to 100% of rated capacity. The engines also start and stop automatically according to cooling demands.

Compared to electrically powered installations, the test system cost more initially (5%) and more to maintain. But, says Le Roi, these extra costs are offset many times over by operating economy. Le Roi Div., Westinghouse Air Brake Co., Milwaukee 1, Wis.

Emergency Light Assembly Guards Against Accidents

The "Watchmaster" series of automatic emergency lights including a number of new safety features has been announced by Automatalite.

The new unit features floodlight type, sealed-beam lampheads with strong center beam for lighting long passageways or to pinpoint exits and critical controls.

Also said to be exclusive to the new Watchmaster is addition of a device to prevent the loss of water from the batteries by trapping and converting into water the hydrogen and oxygen given off in charging. This same device also is said to prevent messy corrosion around battery terminals and guard against explosion hazards from free hydrogen gas.

The manufacturer claims added life to the battery of from 50 to 100% and that water need be added only once each year or two. Automatalite Div., Carpenter Mfg. Co., Bradley St., Somerville 45, Mass.

Silicone Resin Seals Surface To Reduce Spalling of Concrete

A silicone resin designed to reduce spalling of concrete bridges and highways is now being marketed commercially under the trade name "Spallbar" highway water repellent.

According to the manufacturer, Spallbar repellent may be used on highways as soon as the concrete has set sufficiently to support the weight of spraying equipment—usually about seven days after the concrete has been cast. The chemical may be applied at temperatures varying above 15 F. The chemical is not water soluble, and as a result the manufacturer says it is better able to resist loss from rain. Union Carbide and Carbon Co., Silicones Div., 30 E. 42nd St., New York 17, N. Y.

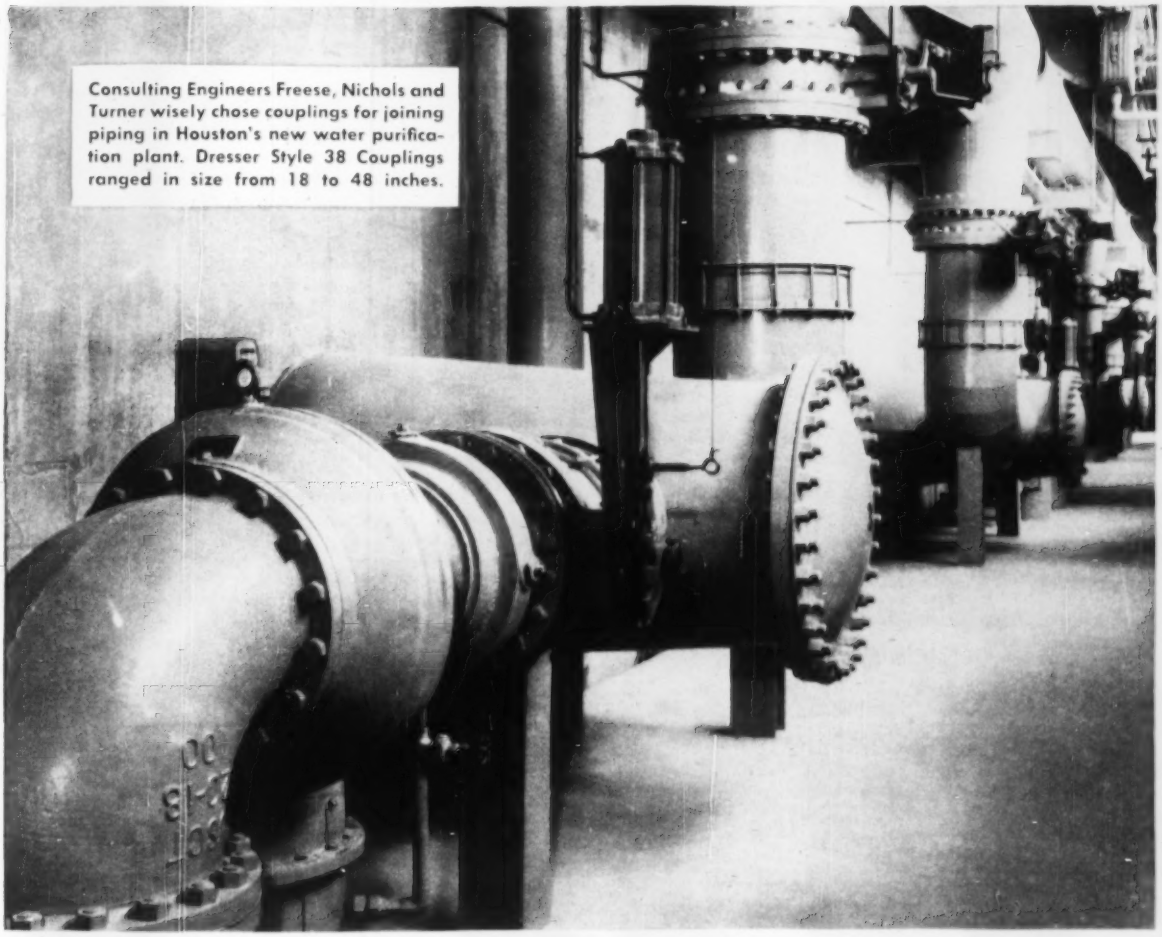
Sign System Developed to Announce Highway Conditions

A new changeable sign has been designed to act as a highway condition indicator to provide drivers with information about hazardous conditions that may suddenly arise.

The manufacturer, Tele-Dynamics, Inc. says that it has long been felt that driving speeds—and with them, accidents—can be drastically reduced by a sign which can relay warnings to the driver at the touch of a switch. Such conditions as fog, ice, snow, rain, or an accident ahead can be signalled by the sign, which may be easy to read day or night.

The signs can be controlled either manually, remotely, remotely by radio or by electronic sensing, and is designed for either overhead or pedestal mounting. Lettering is readable at 1,500 ft day or night. Each unit is back-lighted with the 8-ft fluorescent lamps. Units with enameled panels, front lighted at top or bottom, are also available. Tele-Dynamics, Inc., 32nd & Walnut Sts., Philadelphia 4, Pa.

(*New Products continued on page 50*)



Consulting Engineers Freese, Nichols and Turner wisely chose couplings for joining piping in Houston's new water purification plant. Dresser Style 38 Couplings ranged in size from 18 to 48 inches.

Houston solves piping problems for good

Steel pipe and Dresser Couplings provide flexible installation, easy accessibility

Houston's new water purification plant, a part of the San Jacinto River Water Project, integrates some of the latest developments in industrial design with time-proved principles of municipal water treatment.

The new plant reflects the wise use of steel pipe and mechanical couplings where weight, price and greater flexibility are important factors.

Consulting Engineers Freese, Nichols and Turner of Houston specified Dresser Couplings teamed with steel pipe "to provide for expansion and contraction of long runs of pipe, to provide for flexibility in the installation and possible future dismantling of large pipe assemblies, and to connect steel pipe to concrete hydraulic structures."

Whenever you join pipe — especially near valves or any type of mechanical installation — provide easier installation and permanence with safe, sure Dresser Couplings.

Regardless of vibration or expansion-contraction, the resilient gaskets in Dresser Couplings hold bottle-tight for life. This built-in flexibility, particularly important between rigid flanges, serves to prevent piping strain from reaching valve casings and working parts. Result: greater efficiency, longer life.

Installation with Dresser Couplings requires only a wrench, is fast and simple. You can forget time-consuming procedures because Dresser Couplings compensate for slight misalignments, facilitate installation of set, rigid equipment on piping. These couplings also permit easy entrance into lines for maintenance or repair of equipment.

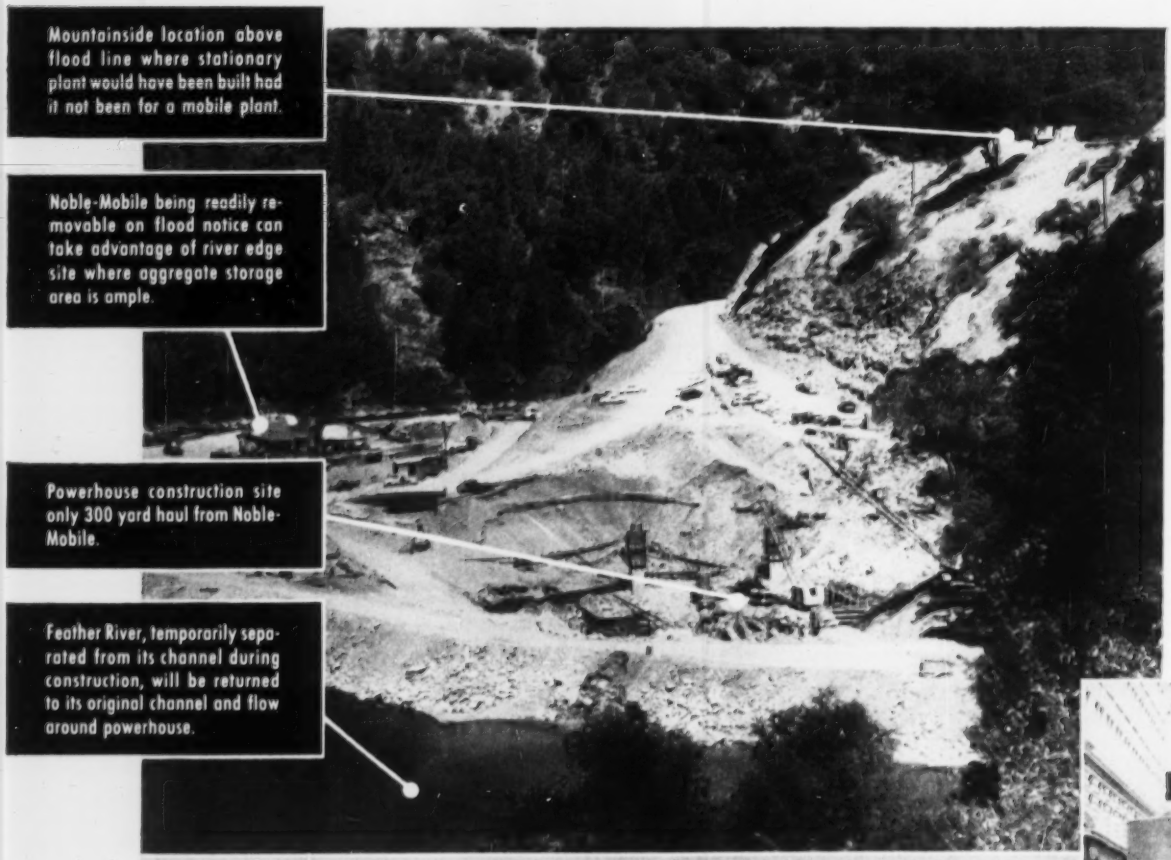
No other method of pipe joining provides all these proved advantages. Make sure you have foolproof, leakproof Dresser Couplings on your next water, sewerage or industrial project. For complete information, call your local piping supply house or write Dresser Manufacturing Division, Bradford, Pa. Sales offices in: New York, Philadelphia, Chicago, S. San Francisco, Houston, Denver, Toronto and Calgary.

ONE OF THE DRESSER INDUSTRIES

How NOBLE-MOBILE solved flood

Flash floods that could wash away a fixed batching plant installation were a threat at the site of the powerhouse construction by the Bechtel Corporation for Pacific Gas & Electric Company on the Feather River, California. A gravel bar at the river edge was the logical site for a concrete batching plant because it was the only place with sufficient area for aggregate storage. Yet, with flood danger, the only practical alternative site was a point 110 ft. up the canyon wall off the Western Pacific Railroad right-of-way. A stationary plant there would have required extensive concrete foundations and a major earthmoving job to level an area of sufficient size to store aggregates. The site also would have entailed transit truck hauls under all weather conditions down a steep grade.

Noble-Mobile made the mountainside installation unnecessary. This batching plant on wheels was put into operation at the river edge as it could be hauled out to high ground on only a day's notice of flood. The mobility permitted scheduling work for 12 months a year so that the job could be completed by 1958. Noble-Mobile saved 70% in installation costs as against a stationary, mountainside plant. On this project, Noble-Mobile normally has to operate only 50% of the working day in order to provide the 25,000 yards of concrete that ultimately will be used. The batch is hauled by transit trucks to the construction site only 300 yards distant.


Mountainside location above flood line where stationary plant would have been built had it not been for a mobile plant.
Noble-Mobile being readily removable on flood notice can take advantage of river edge site where aggregate storage area is ample.
Powerhouse construction site only 300 yard haul from Noble-Mobile.
Feather River, temporarily separated from its channel during construction, will be returned to its original channel and flow around powerhouse.

View of construction of semi-outdoor powerhouse designed to withstand the damaging effects of flood. Outside dimensions will be 175 ft. by 116 ft. by 87 ft. high. Construction area has been separated from the river course by a low temporary levee around the area for the period of the construction. The foundation of the plant is at the bottom of an excavation to a depth of 51 feet below the river surface. On completion of the project, the river will be returned to its original channel. 36 ft. of the powerhouse will extend above the normal river level.

NOBLE-MOBILE
Batchmobile
Covered by patents pending

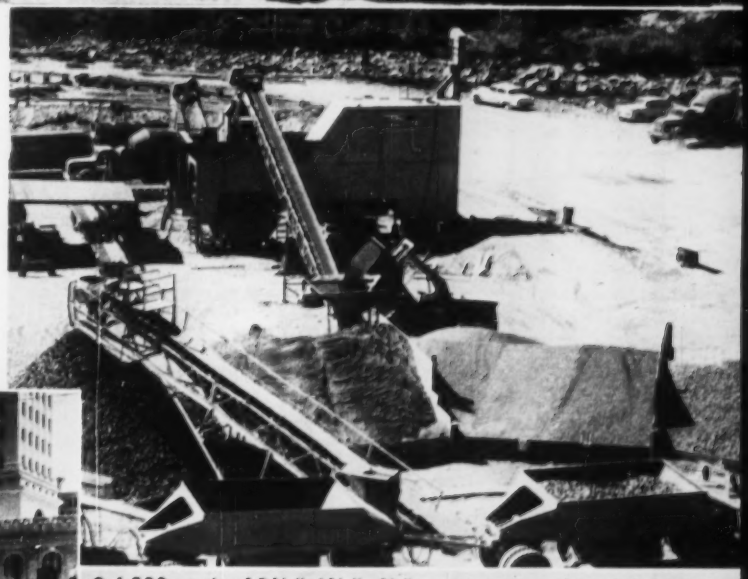
WRITE FOR CIRCULAR
THE NOBLE COMPANY • 1860 7TH ST., OAKLAND 20, CALIF. • TEMPLEBAR 2-5785
Branches: 20950 Center Ridge Road, Cleveland 16, Ohio. EDison 1-3426
518 First Ave. North, Seattle, Wash. MUtual 4878
218 Richmond St., El Segundo (Los Angeles), Calif. EAstgate 2-4518
International Sales Agent: Frazar International Corp., San Francisco

problem and saved 70% in installation cost

NOBLE-MOBILE BATCHING PLANT

supplies concrete to transit trucks. May also be used for dry batch or pre-mix. Has bulk cement storage silo with truck hopper unloading screw and elevator. Weighs aggregates and cement separately and simultaneously. Automatic or semi-automatic control. No field wiring, concrete foundations or crane time required on base plant.

Noble-Mobile is driven to the job site and goes into production promptly. Purchase is easier to finance than stationary plant.

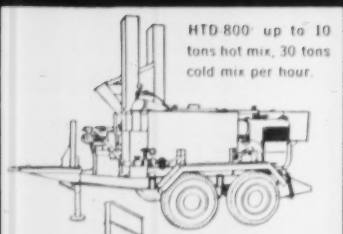


1,000 yards of 2½", 1½", ¾" aggregates and sand, hauled by truck from Oroville 25.1 miles away, are stored in compartmented piles at the site. They are fed by a scooploader to a conveyor leading to the plant. The materials are automatically batched and discharged by a conveyor to the transit trucks for the approximate 2-minute haul to the pouring site.

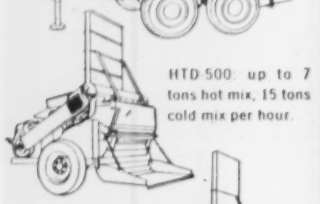
DISTRIBUTORS: BIRMINGHAM, ALA., Equipment Service Co. • PHOENIX, ARIZ., Superior Equipment Co. • VANCOUVER, B. C., Westcoast Equipment Co., Ltd. • DENVER, COLO., Western Machinery Co. • BALTIMORE, MD., General Supply & Equipment Co., Inc. • CEDAR RAPIDS, IOWA, James W. Bell Co. • INDIANAPOLIS, IND., Manwaring Machinery Co. • DETROIT, MICH., R. G. Moeller Co. • ST. PAUL, MINN., Borchert-Ingersoll, Inc. • CLEVELAND, OHIO, Wepco Equipment Co. • LOS ANGELES, CALIF., Smith Booth Usher Co. • PORTLAND, ORE., Clyde Equipment Co. • PHILADELPHIA, PA., Furnival Machinery Co. • PITTSBURGH, PA., Equipment & Supplies, Inc. • AMARILLO, TEXAS, Plains Machinery Co. • DALLAS, TEXAS, North Texas Equipment and Supply Co. • HOUSTON, TEXAS, Baehck Engineering Co. • EL PASO, TEXAS, Border Machinery Co. • WACO, TEXAS, Richards Equipment Co. • SAN ANTONIO, TEXAS, Contractors Machinery Co. • SALT LAKE CITY, UTAH, Arnold Machinery Co. • SEATTLE, WASH., Star Machinery Co. • SPOKANE, WASH., Intermountain Equipment Co. • CASPER, WYOMING, Studer Tractor & Equipment Co. • MONTREAL, QUE., Laurentide Equipment Co., Ltd. • WINNIPEG, MAN., Huggard Equipment Co., Ltd. • BOSTON, MASS., Hedge & Matthews Co. • LOUISVILLE, KY., Emmett C. Watson Co. • NASHVILLE, TENN., Peterson Machinery Co.

For Low Cost Paving or Patching

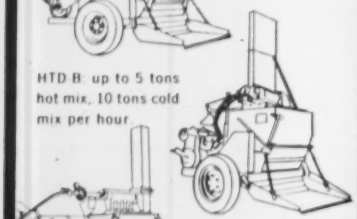
McConnaughay ASPHALT MIXERS



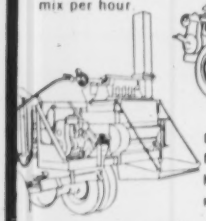
HTD-800: up to 10 tons hot mix, 30 tons cold mix per hour.



HTD-500: up to 7 tons hot mix, 15 tons cold mix per hour.



HTD-B: up to 5 tons hot mix, 10 tons cold mix per hour.

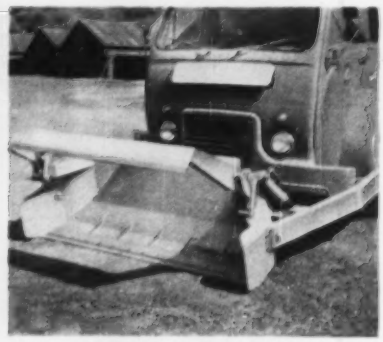


HTD-B TRUCK MOUNT: up to 5 tons hot mix, 10 tons cold mix per hour.

For details and specifications, write, wire or 'phone . .

K. E. McCONNAUGHAY
LAFAYETTE, INDIANA

National distributors: Asphalt Equipment Co., Inc., 3314 Cherry Lane, Fort Wayne, Indiana



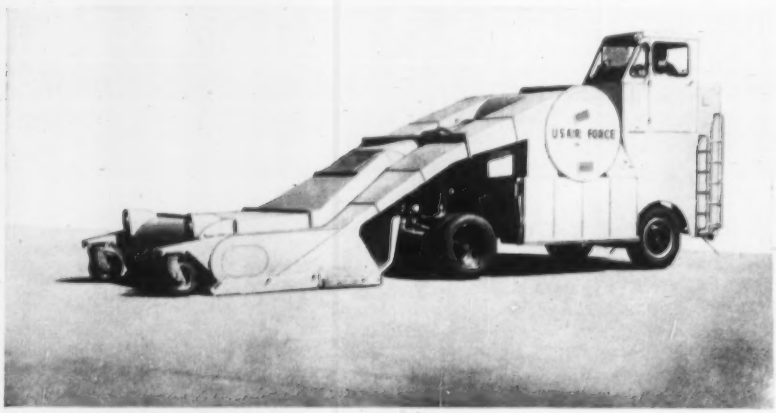
Truck-Loading Device Has Self-Loading Bucket

A new truck loader featuring a self-loading bucket, is now available for use with most conventional heavy trucks. According to the manufacturer, the new loader is unusual in that it has a patented hydraulically-operated jaw that swings down and reaches out to meet ground level about 13 in. forward at the lip of the bucket. The jaw completes its closing cycle by pulling and holding the full load bite in the bucket.

This powerful jaw action is said to eliminate necessity of ramming the truck into a stockpile to obtain a full bucket. When picking up small piles, the jaw fills the bucket quickly, easily and completely. Two sets of hydraulic rams provide full hydraulic power and control through the entire cycle, lift the arms up and beyond the vertical position, permitting the bucket to be stopped and dumped at any point over the truck body.

According to the manufacturer, the loader is designed to fit almost any type of truck, including four-wheel-drive units, cab-over, tilt-cab and conventional trucks without violating legal overall truck width restrictions.

The heavy duty bucket capacity is ½ cu yd, with larger buckets available for special jobs. M-B Corp., New Holstein, Wis.



Vacuum Cleaner for Airfield Runways

The United States Air Force is now testing a new machine at its Wright-Patterson Air Force Base in Ohio, designed to actually vacuum runways, taxiways and other areas of airfields.

The military agency estimates that debris on paved strips is causing $25 million in damage yearly to jet aircraft engines, and creates a hazard for pilots.

The machine, developed by the Coleman Engineering Co., Inc., of Los Angeles, is in reality a self-propelled vacuum cleaner large enough to clean huge areas of air field hourly of sand, nuts, bolts, nails and washers, wood, rope, stones and other obstructions. According to T. C. Coleman, president of the company, the machine, known as the "Cole-Vac" can operate at the normal cruising speed of an automobile on a city street. A rear engine drive mechanism has two engines, one to propel the apparatus and the other to power the vacuum system. Nozzle intakes slope forward and downward from the drum-like separator, from which debris is deposited in dual hoppers. These hoppers can be emptied by the operator, and the operator also can raise the nozzles when the machine is not cleaning, to give it greater road clearance for ordinary travel. Nozzles, hoppers, engines and cab are mounted on a standard commercial truck chassis, powered with a commercial gasoline engine. Coleman Engineering Co., Inc., 6040 W. Jefferson Blvd., Los Angeles 16, Calif.

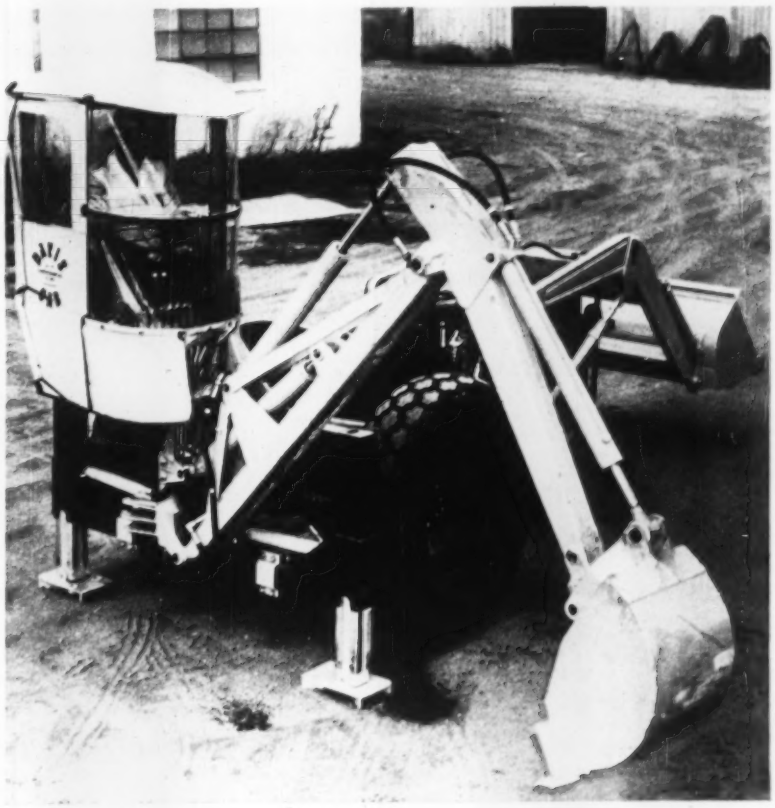
Back-Hoe Attachment Made For Tractor-Shovel Models

The Wain-Roy Corp. has announced manufacture of a back-hoe designed for use with the Models HH and HU 4-wheel-drive payloader tractor-shovels. The 4 yd-capacity back-hoe is a completely independent unit, replacing the payloader bucket by attaching to boom arm and hydraulic hose connections.

The back-hoe digs and dumps at a radius of 190 deg. With a digging reach of 12 ft 4 in. it will dig to a depth of over 13 ft and load to a height of more than 9 ft. WAIN-ROY CORP., HUBBARDSTON, MASS.

Polyethylene Film Added

Pure polyethylene film for permanent moisture-vapor protection in building construction can now be obtained from the Delta Co. Intended as tarpaulins, windbreaks, sidewall vapor seal and membrane seal below on-grade slabs, the material is available in a number of thicknesses. DELTA CO., 333 W. 24TH PLACE, CHICAGO 16, ILL.



Cab Protects Operator Against Weather

Cab protection for the operator of the Davis Model 185 back-hoe is now available.

Mid-Western Industries, Inc., which manufactures the Davis products, says that the lighthouse-type window, made of nonbreakable and shatter-proof plastic, gives the operator full vision at all times. Side curtains and doors are easily removed for warm weather use. The cab fits on the seat and footrest assembly so that it revolves with the boom. It is formed of flat steel for maximum strength and covered with heavy durable duck canvas. MID-WESTERN INDUSTRIES, INC., WICHITA, KANS.

Ashes, coal and other substances under foot often make solid floors in boiler rooms unsafe.

Such hazardous materials cannot accumulate on a floor made of Irving open steel grating. Debris falls right through, making floors always clean. Dangerous fumes can escape through open grating. Floors made of Irving Grating are clean, safe at all times . . . no ankle turning, tripping, slipping, hot foots. It is fireproof, self-ventilating.

*Manufacturers of Riveted, *Pressure-Locked, and Welded Gratings of Steel, Aluminum and other metals.*

"A FITTING GRATING FOR EVERY PURPOSE"

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Originators of the Grating Industry

Offices and Plants at
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COMMENT

from the

BUTLER ENGINEER

. . . . Of New Developments and Unsound "Bright" Ideas

We're getting tooled-up for handshaking purposes with all of you at the Road Show (Chgo) and the Concrete Masonry Show (St. Looey). And our exhibits will be more than something.

The emperor-sized Highway Program has to be met with equipment not even dreamed of five years ago. And it's going to be. You can be sure Butler Bin will be up there with startling new developments.

Right now developments in the Butler 0-1-0 Automatic Roadbuilders Plant make it easy for *one operator* to dish it up for *three* dual drum pavers. And he can casually reach for a cigarette at any time.

•

We live in the Milwaukee Braves country. Does anyone want a flock of blue World Series tickets to paper a room?

•

When I was in engineering school I was taught

(a) To analyze a given problem

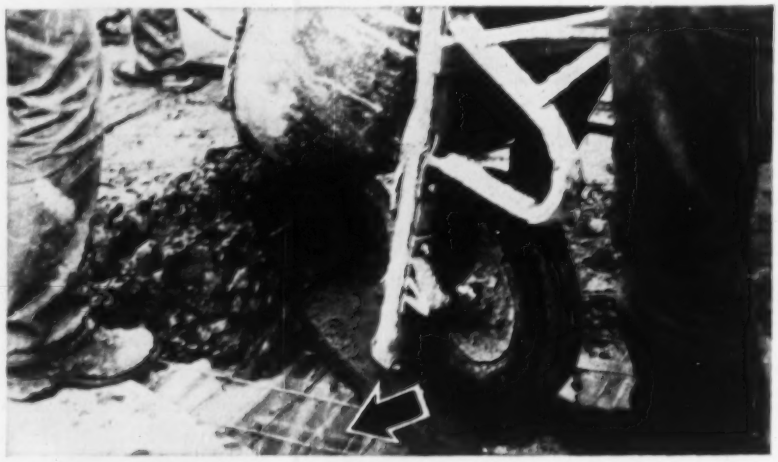
(b) To find out what others had previously done about it.

There are a few manufacturers in the materials handling field who have forgotten to take step (b). And they are such johnny-come-latelys that they are unaware that what seems like a bright idea was tried and found impractical by some of us old timers 25 years ago . . . They simply haven't the background to venture into sound, practical research on the really new and important developments. But they do make trouble for themselves and their trusting customers. Be sure you buy from an established, reliable manufacturer.

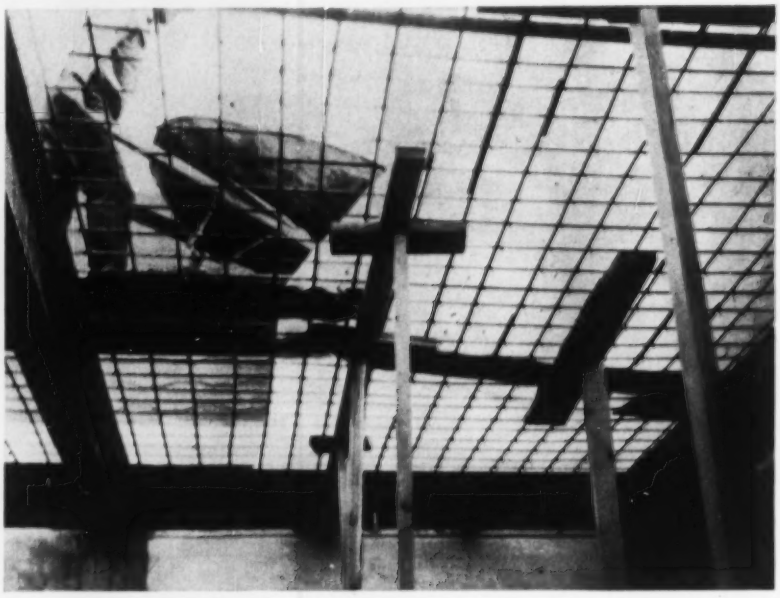
With great sincerity

The Butler Engineer

BUTLER BIN COMPANY
WAUKESHA, WISCONSIN



Roof-Slab Form Is Plastic Film . . .



. . . Laid Across Reinforcing Bars

A polyethylene film only 0.006 in. thick served as the form for a 3½-in.-thick reinforced concrete roof slab for a restaurant in Twisp, Wash. The film was supported atop a grid of reinforcing bars.

The contractor, R. D. Schrier, adopted this method to cut his formwork costs but has not released any figures to indicate the amount of his savings.

The concrete roof is 72x24.5 ft. Wire-mesh reinforced, the slab spans across 15-in. I-beams, which are spaced 8 ft c-c.

To support the plastic form, Schrier laid a grid of ⅜-in.-dia reinforcing bars, spaced 6 in. c-c, between the steel beams. He braced the grid in two additional ways: (1) with shores to the floor below; and (2) by welding 1¼-in. angles to the top flanges of the beams at midspan, with the vertical leg extended down. The steel bars—which are not encased in the concrete slab—were left permanently in place.

A suspended ceiling was placed 2 ft below the slab. The plenum thus formed provides space for insulation, plumbing and electrical conduit.

The film was manufactured by the Plastics Division of The Visking Corp., Terre Haute, Ind.

NEW "KING-SIZE" CARTRIDGES SAVE TIME AND LABOR

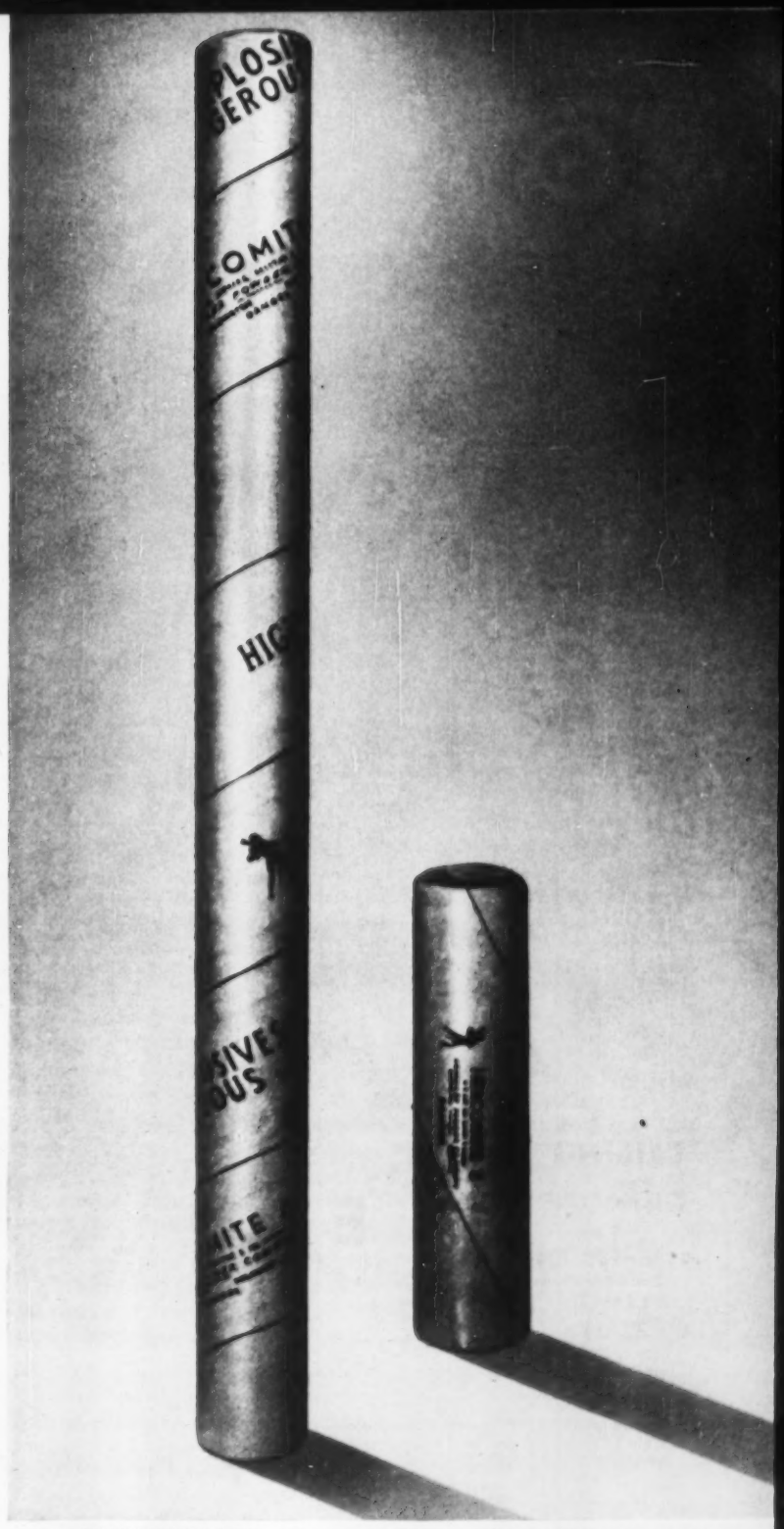
Now, Hercules produces "King-Size" cartridges in lengths of 24, 20, 16 and 12 inches, and in diameters of 1¼, 1½, 1¾, and 2 inches.

Available in all types of Hercules* dynamite, these long-length, small-diameter cartridges are now in full production.

"King-Size" cartridges make possible a more uniform fragmentation through the discharge of a single column of explosive. Their use means substantial savings in valuable time and labor in loading holes.

Hercules designed, tested, and installed special new packing machines for these "King-Size" cartridges.

Our technical service and sales representatives will be glad to discuss with you how these "King-Size" cartridges can go to work for you.



THREE TIMES AS LONG... Here is one of the new "King-Size" Hercules cartridges—24 inches in length, shown alongside the same grade in the conventional 8 inch size.

HERCULES

HERCULES POWDER COMPANY

Explosives Department, 955 King St., Wilmington, Del.

Birmingham, Ala.; Chicago, Ill.; Duluth, Minn.; Hazleton, Pa.; Joplin, Mo.; Los Angeles, Cal.; New York, N.Y.; Pittsburgh, Pa.; Salt Lake City, Utah; San Francisco, Cal.

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CEILING GRINDER

- **FASTER AND EASIER:** One man will average almost 4000 sq. ft. per day. Does not need scaffolding.
- **CHEAPER AND BETTER:** Money saved on finishing will help pay for grinding.
- **DEPENDABLE:** Individual GIRAFFES have worked more than 1,000,000 square feet without major overhaul.

GIRAFFE®

Heights up to 24 ft.

Has been adapted to cleaning ceilings.

CONCRETE GRINDING CORP.
300 STRAIGHT ST. PATERSON, N. J.

W. A. Bugge Heads Up AASHO

W. A. Bugge, director of highways for the State of Washington, took office this week as president of the American Association of State Highway Officials at its annual meeting held in Atlantic City.

William Adair Bugge (pronounced as in horse-and-buggy) brings to this top national highway post a broad background of experience in highway and construction fields, and the ability to express himself forcefully on the current problems. He has long been an advocate of better pay, faster advancement for engineers, and multiplication of engineering abilities by use of machines and improved personnel assignments.

An early leader in the battle for a national approach to the highway problem, he used his presidential address to the Western Association of State Highway Officials at Seattle, Wash., on June 5, 1952, to emphasize the need for doing more.

"There is nothing to be gained from minimizing the seriousness of the situation—indeed there is a great deal to be lost. We must let the people—our customers—know how bad the situation is; tell them we are in the midst of a great highway transportation crisis in our states," he said.

"We shouldn't try to shrug off the responsibility. We should admit frankly that we highway administrators—like everybody else—didn't realize the dynamic future of the motor vehicle.

• Highway man—W. A. Bugge has spent most of a lifetime in highway work. After Army service in World War I, he attended Washington State College, left it in 1922 for a four-year stint with the Washington State Highway Department. This was interrupted by two years on construction of a pulp mill in Oregon. After another short stretch with the highway department, Bugge served four years as construction superintendent for a general contractor. Then from 1933 to 1944 he was engineer of his native Jefferson County, Wash. During that time he served as president of the state association of county engineers. And he was a civil defense co-ordinator for Port Townsend, Wash., and Jefferson County during World War II.

• Rejoins department—In 1955 Bugge became Northwest district engineer for The Asphalt Institute and in 1948 was moved to San Francisco as managing engineer of the Pacific Coast Division. In July, 1949, he returned to Washington to become director of highways.

William Adair Bugge

Much has been accomplished in Washington since that time. During the last eight years, more money has been spent on Washington highways than in all the previous 40 years of the department's history. And in the next two years it is expected that almost as much will be spent.

Bugge points out that in spite of the increased work load, the department has the same number of employees as it had when he became director—and he's proud of that. It results from increasing emphasis on engineering and improved maintenance practices that led to reduction in maintenance forces.

Bugge has been active in association affairs. In addition to serving the Western Association of State Highway Officials in various capacities including president, he is secretary of the Washington State Council for Highway Research, a member of the Interstate Committee on Highway Policy Problems and vice president of the American Road Builders Assn. He has been chairman of the AASHO Committee on Secondary Roads and a member of its Design Policies Committee. He is also a member of the American Society of Civil Engineers, the Society of American Military Engineers, the National Society of Professional Engineers.

Obituaries

Robert M. Reindollar Dies, Was Past President of ARBA

Robert Mason Reindollar, 62, who headed the Maryland State Roads Commission for five years, and was president of the American Road Builders Association in 1953, died at Baltimore Nov. 17. Since the end of his term as chairman of the roads commission in 1951, he had conducted a consulting engineering practice in Baltimore.

Credited with being the driving force behind construction of the $43-million Chesapeake Bay Bridge, and long a fighter for better roads both in his own state and in the nation, Mr. Reindollar started his career at the age of 16, as a rodman on a survey party for the Maryland roads organization. He left the commission's employ during 1917 and 1918 for military construction assignments with the Raymond Concrete Pile Co., returning to the road agency in 1919. He became assistant chief engineer of the commission in 1929, and commission chairman in 1945.

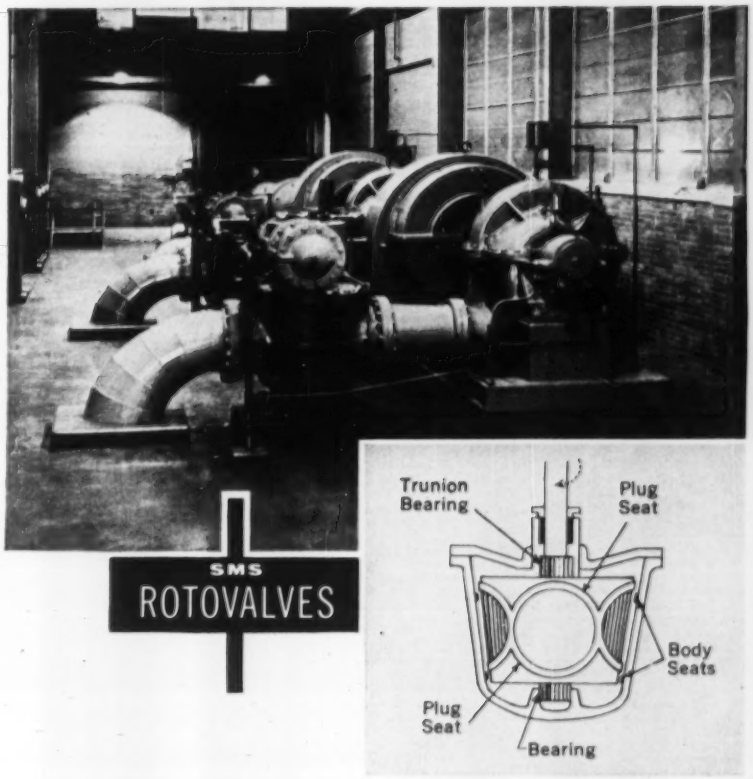
Charles Rufus Harte, 86, who retired in 1951 after 54 years with the New York, New Haven and Hartford Railroad, died at New Haven Nov. 13. An authority on railway electrification, Mr. Harte joined the New Haven line in 1893, interrupted his service during 1900 to 1904 while he directed railroad electrification work in Nova Scotia and during World War I aided the War Department in mapping electric railway tracks in a wide belt along the Atlantic Coast.

Corbin C. Cogswell, 71, founder and president of the Cogswell Construction Co. of Baltimore, died at Pikesville, Md. recently. Mr. Cogswell was president of the former Master Builders Association, which, under his leadership merged with other groups to become the present Building Congress and Exchange of Baltimore.

Saul Lantzis, 58, partner from 1920 to 1945 in the masonry contracting firm of Lantzis & McNally, died Nov. 11 in New York City. Lantzis started out in the building construction field as an office boy with George A. Fuller Co., of New York.

Byron E. Turnbull, 81, formerly head of Phillips & Turnbull, an engineering and construction firm in Jacksonville, Fla., died recently at Utica, N. Y.

Samuel Felt, 68, a builder for many years in the Philadelphia area, died Nov. 10 at Philadelphia.



SMS-ROTOVALVE DESIGN ASSURES POSITIVE CLOSING, LONG LIFE

For fast, easy operation and positive closing, specify SMS-Rotovalves. As shown above, the conical plug, with full line opening, first lifts, then turns, finally reseats. Bronze trunnions eliminate friction and wear to seats, the causes of failure and breakage. Self-purging monel to monel seating assures drop-tight closure.

Rotovalves are designed to solve your control problems. You can be sure of easy operation, precise aperture control, controlled closing time, positive closure, easy mechanical cleaning, low maintenance and long service life. The Rotovalve's full line opening means less head loss and lower pumping costs.

Performance characteristics like these are the result of more than 75 years of hydraulic research and engineering. To get full information on the complete line of Rotovalves, Ball Valves and Butterfly Valves, contact our local representative or write S. Morgan Smith Co., York, Pa.

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AFFILIATE: S. MORGAN SMITH, CANADA, LIMITED • TORONTO

Materials and Labor Prices

Monthly Market Quotations by ENR Field Reporters

See following ENR issues for OTHER PRICES

- Wage Rates, Building Board, Lath, Insulation: Last, Nov 1; Next Jan 3 '57
- Cement, Aggregates, Ready-mixed Concrete, Asphalt: Last, Nov 8; Next, Dec 6
- Iron and Steel Products, Pipe: Last, Nov 15; Next, Dec 13
- Wood Products, Glass, Explosives: Last, Nov 22; Next, Dec 20

STRUCTURAL CLAY BUILDING TILE, BRICK AND LIME—DELIVERED

	STRUCTURAL CLAY TILE PARTITION—SCORED Per M. lots of 2,000 pieces or over, 3x12x12 in.	4x12x12 in.	8x12x12 in.	STRUCTURAL CLAY TILE—LOAD BEARING—SCORED Per M. lots of 2,000 pieces or over, 8x12x12 in.	10x12x12 in.	12x12x12 in.	BRICK Per M. In quantity Common backing	Straight hard	LIME Per ton, In paper, Carload lot, Hydrated finishing	Common hydrated	Pulverized or lump
Atlanta	$148.25p	$148.25p	$296.50p	$333.55p	.....	.....	$30.50p	$32.70p	$23.50	$24.50	$.....
Baltimore	203.00	217.00	406.00	495.50	596.00	681.00	36.00k	41.00k	33.00	22.00	.....
Birmingham	135.00p	152.00p	.....	303.00p	376.00p	465.00p	27.00ff	38.00gg	33.35	22.30	26.33
Boston	210.60†	224.60†	421.10†	467.80†	.....	.....	40.00p	44.00p	35.70†	30.00†	.....
Chicago	138.00	148.00	280.00	.....	.....	.....	30.00	32.00	38.00	35.20o	.....
Cincinnati	205.00j	225.00j	296.00jdd	213.00j	288.00j	314.00j	45.00j	46.00j	28.50j	24.25i	28.50j
Cleveland	202.50**	215.00**	.....	.....	.....	.....	40.00	44.00	31.00	26.00	.....
Dallas	.....	152.00	.....	.....	.....	.....	27.75	45.00	37.86	25.08	.....
Denver	.....	.....	.....	.....	.....	.....	36.00	47.50	34.80bb	28.00bb	34.00bb
Detroit	213.00	226.00	425.00	.....	620.00	710.00	44.50cc	44.00cc	36.00	32.00	.....
Kansas City	127.50	147.50	270.00	270.00	340.00	400.00	33.00	33.00	32.00	27.50	28.50
Los Angeles	r	r	r	r	r	r	30.50‖	.....	34.00	34.00	35.00
Minneapolis	188.00p	210.00p	429.00p	210.00pw	.....	.....	43.00*p	52.50ss	44.50bbe	35.50bbe	47.50bbde
Montreal	170.00aq	178.00au	325.00au	270.00	400.00	.....	42.00	49.00	39.00	22.00	13.75u
New Orleans	188.00	188.00	380.00	380.00	.....	.....	40.00	55.00	44.00	32.00	32.00
New York	158.10h	168.60h	231.70xh	255.20hh	.....	.....	44.00	.....	37.00	35.00	.....
Philadelphia	156.30	166.80	312.70	375.20	.....	.....	30/34	34/40	27.60	25.80	3.17
Pittsburgh	154.00	162.00	292.00	340.00	420.00	498.00	36.00	46.00y	32.00	29.50	2.97m
St. Louis	178.50cc	203.00cc	358.00cc	500.00cc	.....	.....	43.00al	41.50a	0.95aaa	.80aaa	1.30aa
San Francisco	156.85a*	177.10a*	235.30ddd*	.....	.....	.....	47.50*	42.50*	27.75	27.75	30.50
Seattle	225.00cc	250.00cc	450.00cc	250.00ccw	.....	.....	43.00a	55.00a	48.00aAA	38.25AA	3.90mAA
Toronto	138.70	148.90	273.75	222.00jf	.....	.....	25.00	63.00	36.00	33.50	31.00

*i F.o.b. yard Roxbury. *a Smooth. *b Per 50 lb. bags. *c 8 x 12 x 12 in.-3 cell. *d Pulverized hot. *e 8% 10th following month. *f 8 x 8 x 12. *g 8½ x 8 x 12. *h F.o.b. trucks, job site N.Y.C. *j Truck load or over. *k $1.00 discount. *l Red five. *m Per bbl., 180 lb. *n 7¾ x 7¾ x 12. Speed tile. *o Lime—mason's double hydrated pressure. *p Truck lots. *q Provincial and Municipal tax extra. *r Not used because of earthquake danger. *s 2% discount for cash. *t 5½ x 8 x 11¼. *u Tax exempt. *v Sand lime. *w 5 x 8 x 12. *y Stacked. *z Pebble lime price per 80 lb. sack, delivery. *aa Price per sack. Lime not sold per ton. *bb LCL. *cc Truck delivery. *dd 8 x 12 x 12. *ee Pebble lime. *ff 80% common. *gg Rough. $40.00 Smooth. *hh lcl. *ii Chi common. ‖ F.o.b. yard. *** Warehouse delivery. ** F.o.b. plant Stockton.

PAINT, ROOFING—F.O.B. CARLOAD LOTS

	RED LEAD Per 100 lb. in 500-lb. (Approx.) bbl. Dry a	WHITE LEAD Per 100 lb. in 100 lb. cases In oil w	READY-MIXED PAINT Per gal., drums Graphite b	Aluminum c	Ferric Oxide d	ROOFING SUPPLIES: Carload lots f.o.b. factory Rolls, slate surfaced, 85-90 lb. per sq.	Asphalt felt, per 100 lb.	Tar felt, per 100 lb.	Asphalt coating per gal.	Tar pitch 380 lb. bbl. per ton
Atlanta	$19.25	$28.275	$3.59	$3.86	$3.31	$3.15	$2.95	$2.95	$0.63	$57.75
Baltimore	19.00	27.90	2.75	4.25	3.35	2.78	4.25	4.25	.48	.50 18
Birmingham	19.25	28.275	3.90	3.40	....	3.37	2.80ti	2.80ti	.82ff	42.65ee
Boston	19.00	27.90	....	....	....	3.30g g	2.83aq	2.83aq	.45g	56.00g
Chicago	19.00	27.90	....	....	....	3.57‖w	3.00‖o	3.00‖o	43.50‖bbe	55.70‖
Cincinnati	19.00	27.90	....	....	....	3.15	2.63	2.63	.504y	52.38
Cleveland	19.00	27.90	2.40pgg	2.60gg	2.80gg	3.15q	2.62o	2.62o	.464y	47.00kk
Dallas	19.25	28.65	....	3.13ff	....	3.00r	3.00o	3.00o	.464	65.00kk
Denver	19.50	28.40	3.29	5.15	3.04	2.84	2.30o	2.30o	.48ff	45.00
Detroit	19.00	27.90	3.35	3.25	2.50	2.656	2.409	2.409	.53	47.30
Kansas City	19.00	28.65	3.64	3.12	2.76 **	3.65ii	3.49o	3.49o	.58y	83.70
Los Angeles	19.00	28.15	3.30n	4.50n	4.20n	3.20n	2.15en	i	.70my	i
Minneapolis	19.00	29.88/28.02	....	....	....	2.835dd	2.358kidd	2.358kidd	.46idd	48.00r
Montreal	.....	21.95	5.02Dfft	5.94Rfft	4.85Ffft	5.25f	4.65f	4.65f	1.00	.....
New Orleans	.....	.....	....	....	....	3.15	2.62	2.62	0.758	.....
New York	19.00	27.90	....	....	....	2.84G	2.36Ga	2.36Ga	.463Ga	48.00**
Philadelphia	19.00	27.90	3.60	3.40/3.65	3.50/4.60	2.54	2.94	2.94	.37	28.00
Pittsburgh	19.00	27.90	3.10	3.36	3.68	3.72	2.85o	2.85o	.42	58.75
St. Louis	19.00	27.90	....	....	....	2.86n	2.36h	2.36h	.46y	54.35
San Francisco	19.00	28.15	2.95	4.15	3.40	2.70	1.85**	2.84aa	.56	54.00
Seattle	19.00	28.40	3.47mee	4.19mee	....	3.84mqee	3.33hmee	....	.55mee	47.2 **
Toronto	.....	.....	....	....	....	2.45	4.10e	4.65o	1.7 j	88.00 t

*† Delivered. * Note: Red lead in oil 50¢ higher than white lead in oil. *a Red lead prices change frequently due to pig lead price changes. *b U. S. War Dept. Spec. 3-49A. *c ASTM Spec. D266-31. *d 80% minimum ferric oxide. *e 15 lb. *f Per 432 sq. ft. *g F.o.b. yard, Roxbury. *h Per roll, 65 lb. *i Net carload lot prices; Minneapolis and vicinity. *j 45 gal containers. *k Per cwt. *l Not used. *m 1% discount for cash. *n F.o.b. city. *o Per 60-lb. roll. *p 6-drum, 50 gal. ea. *q Per 90-lb. roll. *r F.o.b. factory, Chicago. *s Truckload. *t Federal tax included, add 5% mun. & prov. tax. *u Per 90-lb. square. *v Per ton. *x Mineral surfaced. *y 55-gallon container. *z Drums. *aa 15 lb., 324 sq ft roll. *bb Roofers coating and cement; Price per ton. *cc LCL, truck delivery. *dd 2% cash discount. *ee Asphalt pitch in 100 lb. packages. *ff 5-gal. drums. *gg F.o.b. factory. *hh Incl. freight. *ii Per roll. *A 400 lb barrel. *B ASTM Spec D-962-49. *D Std. Black. *E Ready-mixed. *F Over 80% ferric oxide. ** Aver. wt. approx. 425 to 550 lbs. drums. *G F.o.b. factory points.

PLASTER, VERMICULITE AND METAL BUILDING SHEETS & TUBING

	PLASTER† Neat per ton	Gauging per ton	VERMICULITE† Home Insulation pellets	Plaster aggregate	Concrete Aggregate Untreated per bag of 4 cu ft	PERLITE Plaster Aggregate	Concrete Aggregate Untreated	ALUMINUM SHEET‡ Flat, .102" th 36"x96" & 48"x144" per lbr	Corr roof .032" th 35"x12" per sh‡	STAINLESS STEEL SHEET*-TYPE 302‡ 20 ga 48"x96 120" per cwt‡‡	28 ga 36"x120" per cwt‡‡	COPPER WATER TUBING-TYPE L 2000 ft lots per ft‡ ¾"§	1"§c
Atlanta	$30.00	$36.00	$1.55e	$1.65e	$1.80hf	$1.40	$1.40	$0.422n	$6.57v	$61.44n	$67.56n	$18.11f	$25.41f
Baltimore	22.85	33.25	0.95	1.15	1.15	1.15	1.65	0.391	0.427e	56.25	64.25	0.1951	0.2745
Birmingham	33.00	39.00	1.55	1.55	1.80f	1.55	1.55	0.475	10.62	62.26	70.76	0.1711	0.2406
Boston	22.00	29.00	1.30	1.33	1.45	1.45	1.50	0.505	28.56op	59.37kdd	65.51dfff	0.1946	0.2729
Chicago	26.80	26.80	1.55	1.60	1.60f	1.50	1.50	0.474	9.805kp	62.40kee	70.90kee	0.1715	0.2406
Cincinnati	21.60**	21.60**	1.75	1.75	1.75	1.38	1.44	0.400	8.66	60.95	66.70ff	0.1851	0.2561
Cleveland	28.00	43.00	1.15	1.16	1.24f	1.45	1.45	0.44oa	8.66	62.83	70.93	18.11f	25.41f
Dallas	29.80	31.80	1.65	1.21	1.37f	1.21	1.32	0.479	0.439e	55.00	63.00	0.1449	0.2029
Denver	25.00	25.00	1.45	1.35	1.50	1.40	1.55	0.444	9.80	60.19gg	70.69gg	0.1851	0.2561
Detroit	25.00	25.00	1.28	1.32	1.41	1.54	1.61	0.455	9.235	62.50f	71.00f	14.42f.o	28.83f
Kansas City	30.00	35.00	1.20	1.30	1.40	1.35	1.50	0.451	10.95	62.32	70.32	20.54f	28.83f
Los Angeles	26.20	27.20	1.25ii	1.20ii	1.25ii		1.60	0.484	8.99	61.85	82.10	0.2054	0.2883
Minneapolis	32.00	32.00	1.50	1.60	1.80	1.40	1.40	0.481	9.00	62.96	76.40fff	0.1851	0.2541
Montreal	28.80	33.20	1.10	1.30	1.30	1.15q	1.15q	0.437	9.25	66.50		0.264	0.322
New Orleans	32.00	45.00	1.25	1.25	1.35	1.25	1.25	0.422	8.303	62.04	70.54	0.1987	0.2796
New York	24.00	30.00	1.25	1.25	1.30	1.30	1.30	0.474dd	9.46f	63.23	71.73	18.11f	25.41f
Philadelphia	23.25	32.00	1.35	1.35	1.40			26.50hhz	7.50f	53.23d	60.98d	18.52f	26.09f
Pittsburgh	27.50	31.00	1.30	1.30	1.32	1.35	1.35	0.42	9.19	56.81	62.63	0.2045	0.2572
St. Louis	29.00	40.00	1.30	1.55jj	1.50	1.60	1.45	0.487	9.80	62.83	69.08	20.54fm	28.83fm
San Francisco	27.85	32.00	1.20	1.20	1.40	1.20	1.20	0.49	8.90cc	66.99	75.47	0.1715	0.2409
Seattle	38.00	41.00	1.45	1.25k	1.85l	1.40k		0.422	8.303	64.10	72.60	0.1951	0.2745
Toronto	28.00	42.00	1.20	1.30	1.45			0.4215	24.00	71.00	80.50	0.3085pp	0.3876pp

† trucklots, delivered. * carload. ‡ delivered. *a fob city. *b ½" O.D. *c ⅝" O.D. *d per 100 ft. *e 5 tons & up; cold roll, anneal & pickled; 2B finish. *h 15M lb. *j 1100 & 3003 alloy, mill finish. *k per bag of 3 cu ft. *l treated with air entraining agent. *m 2-10M ft. *n fob plant, fr allow. *o 5M lb & up. *p 100 sq ft quantity. *r per lb. *s 30¢ bag. *t 36" x 96": 10.81 lb/sh; 48" x 144": 21.7 lb/sh. *u 19.31 lb/sh. *v fob plant. *w 48" x 144". *x 36" x 96" $13.25/sh. *aa 16M lb & up. *bb fob mill. *cc 26" x 8.12". *dd add $0.75 cwt for boxing. *ee 4 tons & up. *ff 26 ga. *gg add $2/cwt boxing; $0.75/cwt on skids. *hh Theoretical wt for 48" x 96"; 50.4-lb. per sh. *ii 300-bag lots. *jj per 100-lb bag. *mm Theoretical wt: 19.7-lb per sh. *nn Deliv. warehouse means. *oo ¼" O.D. *pp Incl 10% sales tax.

Materials and Labor Prices

Monthly Market Quotations by ENR Field Reporters

See following ENR issues for OTHER PRICES

- Cement, Aggregates, Ready-mixed Concrete, Asphalt: Last, Nov 8; Next, Dec 6
- Iron and Steel Products, Pipe: Last, Nov 15; Next, Dec 13
- Wood Products, Glass, Explosives, Chemicals: Last, Nov 22; Next Dec 20
- Clay Products, Lime, Plaster, Paint, Roofing: Last, Oct 25; Next Dec 27

BUILDING BOARD & LATH AND INSULATION—DELIVERED TRUCKLOAD LOTS

	GYPSUM PLASTER BOARD tapered edge per Msq ft ½"	⅝"	GYPSUM BOARD LATH plain or perf per Msq ft ½" x 16" x 48"	GYPSUM SHEATHING tongue & groove per Msq ft ½" x 2' x 8'	FIBER BOARD SHEATHING asph impreg & coat per Msq ft ½" sq ed	⅜" T&G	FIBER BOARD INSULATION sq edge, paint per Msq ft ½"	MINERAL WOOL INSULATION† loose, per 40-lb bag a	3" batts per M sf	GLASS FIBER INSULATION† loose, per 40-lb bag a	3" batts per M sf	ALUMINUM FOIL 60¢ Kraft Expansible 1 side foil per roll of 250 s. f.	Blanket 2 layers foil per Msq. ft
Atlanta	$70.00	$60.00	$43.00	$70.00	$70.00	$127.00	$27.00	$1.00	$60.00	$1.65‡	$65.00		
Baltimore	51.25f	44.75f	32.55f	55.00f	65.00f	108.50f	69.00f	1.30	66.50	1.80	45.00	$4.00g	$33.50
Birmingham	73.00	60.00	47.77	75.00	80.00	134.00	79.00	1.40	70.00	1.80	75.00	2.99g	
Boston	57.00m	46.50m	33.00m	82.00m	84.00m	109.00m	79.00kn	1.45	70.00		60.00	6.00	55.50
Chicago	67.00	52.00	43.00	82.00	85.00	123.00	85.00	1.85	80.00		63/65‡‡	5.25r	
Cincinnati	46.40w	41.60w	30.80w	49.81w	67.50w	120.00w	70.00w	1.25	60.00	1.25	73.50	3.12½	50.00w
Cleveland	60.50	55.00	40.00	65.00	70.00	111.00	75.00	1.35/1.50	75.00	1.80**	87.50**	17.50*	50/55
Dallas	58.00	55.00	42.50	65.00	73.50	122.50	70.00	1.90	85.00	1.35	65.83	4.25	
Denver	82.00	74.50	61.00	82.00	75.90	126.00	74.90		71.00‡	1.20*	58.00	11.00v	91.00
Detroit	57.50	49.75	36.00	60.00	58.50	98.00	57.50			1.95‡	83.00		
Kansas City	65.00	55.00	40.00	65.00	72.00	120.00	75.00	1.40	80.00	1.40	80.00	11.24dt	19.44
Los Angeles	64.00	59.00	0.325x	66.50	71.87	121.25	80.00		83.00	1.35a	64.00	4.20g	
Minneapolis	80.00	70.00	0.40x	80.00	70.00	140.00	78.00	1.60	80.00	1.80	80.00	6.00	
Montreal	56.00	48.00	38/39	53.00	80.00		63.00	1.30	56.00	1.30	56.00	18.00q◇	88.00
New Orleans	55.00	48.00	45.00	60.00	75.00	125.00	72.50	1.75	68.00**				
New York	53.00	45.50	35.00	54.00	89.00	109.00	70.50	1.55	65.00	1.90‡	67.00	5.20	48.50ee
Philadelphia	50.00	48.00	34.00	48.50	67.50	105.00	49.20		63/70		70/75	5.50/6	4.50/44.5
Pittsburgh	55.00	55.00	40.00	68.00	65.00	105.00	60.00	1.90	72.00	1.90	72.00	4.10	
St. Louis	62.00	55.00	39.00	65.00	65.00	110.00	75.00	1.60	80.00	1.65	62.00	6.67t	
San Francisco	54.00c	46.00	0.35z	57.00	61.00	102.00	60.00	1.60	66.50	1.55	66.50	4.95	55.00
Seattle	66.00	57.50	46.50	65.00	74.50	125.00	73.50	1.60g	74.00	1.80aaa	50.00aa	4.25g	46.50
Toronto	61.00	50.00	38.00	64.50	75.00			1.40	60.00		60.00	17.00u	45.45

*a for hand packing *b per 30¢ bag *d 40¢ kraft paper *e 20¢ sq ft bag, 4" thick *f full trailer loads *g 80¢ kraft paper backing *h LCL *i 40 lb roll *j 80 lb roll *t flame-proof $75.00 *m 10 ton quantities *n distributor's siding *o per Msf roll *p per sf *r per cwt *s per 35¢ bag *t per M sq ft *w fob city *x per sq. yd. *y 26¢ bag *z 32¢ bag *aa fob warehouse *bb 2" *cc in 250 sf rolls, of 16", 20", or 24" width.

HOURLY WAGE RATES—Base rate + fringe benefits

	Bricklayers	Carpenters	Struct. Iron Workers	Hoisting Engineers	Plasterers	Electrical Workers	Steamfitters	Common Labor Building	Common Labor Heavy Const
Atlanta	$3.35	$2.80	$3.05	$2.80	$3.00	$3.20	$3.20+25¢cc	$1.45	$1.45
Baltimore	3.45+10¢d	2.95+7½¢e	3.50+7½¢e	2.70/2.95+10¢d	3.25+7½¢e	3.30	3.20+7½¢e	1.60+7½¢e	1.60+7½¢e
Birmingham	3.50	2.70	3.00+7½¢e	2.52	2.92	3.175	3.17+10¢e	1.50	1.60
Boston	3.50+10¢d	3.05+10¢d	3.55+7½¢e	3.50	3.50+20¢f	3.30+12¢ff	3.20+10¢e	2.30+7¢e	2.30+7¢e
Chicago	3.62½+7½¢h	3.15+10¢e	3.55+7½¢e	3.25+5¢m	3.54+23¢e	3.48+21¢f	3.37+22¢eee	2.57½+7½¢e	2.57½+7½¢e
Cincinnati	3.60	3.30	3.35+7½¢e	3.075/3.325	3.375	3.50+3¢N	3.50+9½¢f	2.35	2.25
Cleveland	3.55+10*	3.575	3.50+7½¢e	3.575	3.575	3.60	3.375+10¢e	2.825	2.75
Dallas	3.70	2.95	3.12½+7½¢e	3.075	3.50+7½¢e	3.12½+7½¢e	3.10+7½¢e	1.55	1.55
Denver	3.625	3.075	3.00+7½¢e	2.93	3.30+7½¢e	3.00	3.17+15¢ff	2.00	2.00
Detroit	3.53+20¢ee	3.20+20¢e	3.47½+20¢ff	3.20+20¢eee	3.51+24¢ee	3.50+30½¢ff	3.45+14¢ff	2.45+20¢eee	2.55+10¢e
Kansas City	3.70	2.95	3.075	3.055	3.375	3.325ff	3.15+7½¢e	2.155	2.18
Los Angeles	3.80	3.00+10¢d	3.40+10¢e	2.95+10¢d	3.75+12½¢ff	3.60	3.525+10¢e	2.30+7½¢e	2.30+7½¢e
Minneapolis	3.425	3.00	3.17	2.95	3.10+23¢ee	3.12*	3.00+20¢ee	2.25	2.25
New Orleans	3.25+5¢e	2.725	3.10+7½¢e	2.80+7½¢e	2.87½+5¢m	3.025+7½¢e	3.15+15¢ee	1.55	1.55
New York	4.05+30¢bb	3.65+292¢ee	3.95+34¢ee	3.90+31¢f	4.00+50¢g	3.50+38¢eeff	3.85+35¢eff	2.60+21¢e	2.60+21¢e
Philadelphia	3.75+17¢e	3.385	3.55+18¢e	3.15½/3.90½+10¢e	3.65+15¢e	3.77+15¢ee	3.75+11½¢e	2.10	2.40
Pittsburgh	3.75+17½¢ee	3.325+7½¢e	3.30+7½¢e	3.35+7½¢e	3.40+17½¢ee	3.50	3.425+7½¢e	2.25+5¢e	1.98+10¢e
St. Louis	3.75+19¢e	3.25+7½¢e	3.25+7½¢e	3.325	3.425+7½¢e	3.60+25¢e	3.55+21¢e	2.30+7½¢e	2.30+7½¢e
San Francisco	3.75+36½¢ee	3.25½+10¢e	3.40+10¢e	2.98+10¢e	3.61+26¢ee	3.37½+23½¢ff	3.45+16¢ff	2.325+10¢e	2.375+10¢e
Seattle	3.55+10¢d	2.80+10¢d	3.07+10¢d	2.90+10¢d	3.27½+10¢d	3.20+19½¢ff	3.15+21¢f	2.37+10¢d	2.37+10¢d
Montreal	2.10+14¢t	1.90+14¢t	2.00+14¢t	1.80+14¢t	2.12+18¢t	2.10+18¢t	2.12+18¢t	1.30+10¢t	1.30+10¢t
Toronto	2.61+10¢**	2.40+10¢**	2.40+10¢**	2.50+10¢**	2.45+18¢**	2.65+10¢**	2.44+10¢**	1.50+6¢**	1.50+6¢**

ENR Skilled Average (Bricklayers, Carpenters, Iron workers): $3.423. **ENR Common Average** $2.192

* Cost of living bonus now included in basic wage. † 8¢ fringe benefits. ** 4¢ vacation fund. *a 6 hr. day. *b 7 hr. day. *c 3¢ vac. stamp fund plus 7½¢ WF for bricklayers; 4¢ VF for electricians plus 8¢ WF, 1¢ PF. *d 10¢ H&WF. *e 10¢ VF. *f 6¢ WF. *g 11½¢ WF. *h $2.85 homes & housing plus 7½¢ WF. *i 17¢ WF. *j 10½¢ hr. WF. *k 7½¢ hr. WF. *l 4¢ VF. *m 5¢ hr. WF. *n Plus 11¢ fringe benefits on gross wage ea. yr. *o 10¢ PF. *p 3¢ WF, 3¢ PF. *q 10¢ ins; 6¢ vac. and holi-day pay. *r 4¢ WF and 20¢ PF. *s 5¢ W&PF, 4¢ VF, 1½ NC, 6 PH. *t 7½¢ H&WF. *u 1½¢ PF. *v 10¢ WF. *w Negotiating. *x 5¢ VP. *y 23¢ WF. *z 5¢ HP. *A 15¢ WF, 15¢ PF, 20¢ B.F. *B 7½¢ VP, 5¢ PF, 1½¢ EF. *C 15¢ WF. *D 10¢ H&WF, 5¢ organ. *E 6½ WF, plus travel pay per day. *F Plus $4 per day Annuity contrib. *G 3¢ Pram *H 7¢ WF, 6½ VF. *I 15¢ H&WF, 5¢ for Advtg. *J 1½ WF, 6 PH, 3½ PF. *K 25¢ W & PF, 15¢ VF. *L 3½ WF, 3½ PF, 2½ VF, 1½ EF. *M 7½¢ PF. *N 1½ WF. *O 10¢ W, 1½ NECA. *P 10¢ hosp. ins.; 5¢ eac., 5¢ VF. *Q 1 drum, 2 drums 3.40, 3.55 + 10¢. *R 12¢ WF and 1¢ apprentice. *S 12½¢ H and WF. *T 21¢ H, W & VF. *U 7½¢ WF, 4½ VF, 1½ PF. *V 5½ WF, 3½ PF. *W 2½ F. *X 12¢ VF, & 7½¢ H & WF. *Y 7¢ H & WF. *Z 9½¢ WF. *aa 7¢ WF, 15¢ PF. *bb 8¢ WF. *cc 25¢ WF. *dd 12½¢ WF, 14¢ PF, 5¢ Jt Bd, 5¢ Prom.

	Truck drivers 1½ T	Truck drivers —4 cy	Truck drivers +4 cy	Tractor Operators incl. bulldozers 34-49 hp	Tractor Operators incl. bulldozers 70-100 hp	Tractor Operators incl. bulldozers 100 & over	Tractor scraper 15-16 cy	Power cranes & shovels ½ cy	Power cranes & shovels ¾ cy	Motor grader oper	Air comp oper	Air tool oper
Atlanta	$1.75	$	$	$2.525	$2.525	$2.525	$2.525	$3.05	$3.05	$2.525	$2.30	$1.67
Baltimore	1.60+7½¢e	1.75+7½¢e	1.85+7½¢e	2.85/3.30b	2.85/3.30b	2.85/3.30b	2.85/3.30b	3.40/3.55+10¢e	3.40/3.55+10¢e	2.85/3.30b	2.85/3.30b	2.25
Birmingham	1.60	1.79ff	2.05ee	2.66	2.66	2.66	2.80	2.80	2.80	2.76	2.385	1.75
Boston	2.195c			3.025d	3.025d	3.025d	3.025d	3.40	3.40	3.325	2.95	2.45+7¢e
Chicago	2.08+12¢ff			3.00+5¢e	3.15+5¢e	3.05+5¢e	2.85+5¢e	3.00+5¢e	3.00+5¢e	2.95+5¢e	2.95+5¢e	
Cincinnati	2.20oo	2.30oo	2.40oo	3.075	3.075	3.075	3.075	3.325	3.325	3.325	3.325	3.325
Cleveland	2.50+10¢m	2.50+10¢m	2.50+10¢m	3.325	3.325	3.325	3.325	3.575	3.575	3.325*	3.20	3.20
Dallas	1.55	1.55	1.55	1.55/2.625d	1.55/2.625d	1.55/2.625d	1.55/2.625d	1.55/2.625d	1.55/2.625d	1.55/2.625d	1.55/2.00d	1.70/2.00d
Denver	2.15	2.15	2.25	2.15	2.76	2.76	2.76	2.93	2.93	2.76	2.76	2.35
Detroit	2.45	2.45	2.45	3.30+10¢m	3.30+10¢m	3.30+10¢m	3.30+10¢m	3.30+10¢m	3.30+10¢m	3.30+10¢m	3.025+10¢m	2.85+20¢ee
Kansas City	2.115n	2.115n	2.115n	2.30	2.85n	2.85n	2.85n	3.095	3.095	2.71	2.85n	2.24
Los Angeles	2.405+7½¢e	2.405+7½¢e	2.435+7½¢e	3.05+10¢m	3.05+10¢m	3.05+10¢m	3.30+10¢m	3.30+10¢m	3.30+10¢m	3.30+10¢m	2.54+10¢m	2.51+7½¢e
Minneapolis	2.25	2.25o	2.40o	2.63	2.85o	3.07o	2.85	3.07o	3.33o	2.63	2.52	2.35
New Orleans	1.70	1.95	1.95	2.20+7½u	2.85+7½u	2.85+7½u	2.85+7½u	2.85+7½u	2.85+7½u	2.85+7½u	2.20+7½u	1.65
New York	2.21aa	2.75+14¢ss	2.75+14¢ss	3.27½+26¢ee	3.27½+26¢ee	3.27½+26¢ee	3.40+27¢e	4.15+33¢e	4.15+33¢e	3.40+27¢e	3.40+27¢e	3.00+15¢ee
Philadelphia	1.925/2.15+7½¢e			3.15½/3.90½+10¢m			3.15½/3.90½+10¢m			3.15½/3.90½+10¢m	2.97½+10¢m	2.13½+10¢m
Pittsburgh	2.20+7½¢e	2.20+7½¢e	2.20+7½¢e	2.87½+7½¢e	3.20+7½¢e	3.27½+7½¢e	3.025+7½¢e	3.35+7½¢e	3.35+7½¢e	3.25+7½¢e	3.35+7½¢e	2.20+7½¢e
St. Louis	2.30+7½¢eee			3.325bb	3.325bb	3.325bb	3.325bb	3.325bb		3.325bb	2.775bb	2.775bb
San Francisco	2.321+10¢e	2.321+10¢e	2.405+10¢	3.095+10¢m	3.095+10¢m	3.095+10¢m	3.095+10¢m	3.425+10¢m	3.425+10¢m	3.255+10¢m	2.705+10¢m	2.425+10¢m
Seattle	2.63+7½¢eee	2.63+7½¢eedd	2.83+7½¢eee	2.78+10¢m	2.95+10¢m	2.95+10¢m	2.95+10¢m	3.36+10¢m	3.36+10¢m	3.10+10¢m	2.78+10¢m	2.52+10¢m
Montreal	1.30+10¢tt	1.30+10¢tt	1.30+10¢tt	1.73+14¢tt	1.73+14¢tt	1.73+14¢tt	1.73+14¢tt	1.99+16¢tt	1.99+16¢tt	1.73+14¢tt	1.80+15¢tt	1.60+15¢tt
Toronto	1.53+6¢ee	1.53+6¢ee	1.53+6¢ee	1.90+5¢ee	2.00+10¢ee	2.00+10¢ee	1.90+5¢ee	2.50+16¢ee	2.50+16¢ee		2.05+9¢ee	2.05+9¢ee

*a 5¢ hr. HWF *b lower rates, straight time, other broken *c 2-axle; 10-wheel $2.25; Euclid $2.45 *d Intermediate *e bldg constr; highway $2.25+7¢WF *f less than 2-1 min wage scale approved by County Commissioners Court *g 10¢ H&WF *h flatbed *i under 10 cy *j over 10 cy *k bldg constr; steel constr $3.475 *l higher rates are union, other taken from HWF *x cat oper *y up to 3½ cy *z 3½ cy & over *aa plus W & PF *bb 3½ WF, 2½ PF, 11 PH *cc 4½ WF & 4½ PF *dd up to 5 cy *ee 5 cy & over *ff over 1½ T but not over 3 *gg up to 5 tons *hh excavating *ii 4½ VP *kk 7½¢ WF included in base pay *ll 8½ fringe benefits *mm 10¢ H & WF, 10¢ insurance *nn 8 cy o less; 8-16 cy $2.90; 16-25 cy $3.15 *oo Plus $2.25 wk WF *rr 12¢ WF *ss 5½ WF.

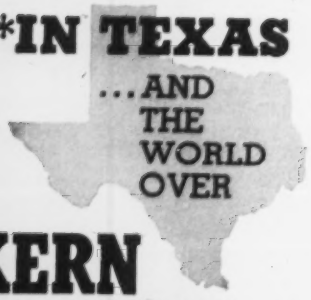
MEXICO CITY PRICES

In Pesos, f.o.b. City		Sept. '56	Oct. '56
Common Wages—Building (8 hr. day) (Peons)	av. per hr.	1.38	1.38
Common Wages—Heavy Const. (8 hr. day) (Peons)	av. per hr.	1.38	1.38
Skilled Labor Wages			
Carpenters (8 hr. day) 1 cl.	av. per hr.	2.48	2.48
Bricklayers (8 hr. day) 1 cl.	av. per hr.	2.48	2.48
Struct. Iron Workers (8 hr. day) Remachadores.	av. per hr.	3.77	3.77

Struct. Steel, Shapes		Sept. '56	Oct. '56
3"-15" x 12 meters # fob Monterrey	per metric ton	2100.00#	2100.00#
Reinf. Steel, Corr. Rods			
¼" x 11 meters	per ton	1965.00	1965.00
⅜" x 11 meters	per ton	1965.00	1965.00
½" x 11 meters	per ton	1965.00	1965.00
⅝" x 11 meters	per ton	1965.00	1965.00
¾" x 11 meters	per ton	1965.00	1955.00
1" x 11 meters	per ton	1965.00	1965.00

Gravel truck load at 3½ cu. meters		Sept. '56	Oct. '56
Blue Gravel	per tr. load	70.00	70.00
Rose Gravel	per tr. load	75.00	75.00
Cement, Std. Port. (Tolteca)	per ton	230.00	230.00
Lumber			
1" Pine	per M ft.	1200.00	1200.00
1½" Pine	per M ft.	1400.00	1500.00

*IN TEXAS



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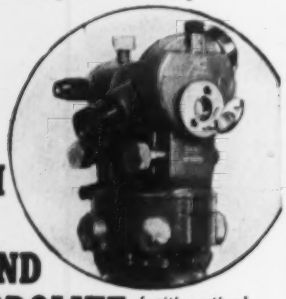

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120 Grand St., White Plains, N.Y.

Unit Prices

Alternate bids on Highway, Bridges, New Hampshire

Bituminous material for C-2 roadmix pavement took the $1,342,951 contract for 2.75 miles of Spaulding Turnpike with five bridges. The contract price is 0.3% below the second low bid that was based on the alternate for asphalt cutback and 0.45% below the engineer's estimate. The New Hampshire Department of Public Works and Highways, Concord, awarded the contract to Frank Palazzi & Sons, Inc., Johnston, Rhode Island. Charles J. Downing is construction engineer for the department.

This two-lane highway in Rochester County begins about 0.2 miles north of Route 125 and runs northerly. The site is located three miles from the nearest railhead.

Major items under this contract include excavation, 21% of the total price, class A concrete, 17.5% earth and sand borrow, 16%, reinforcing and structural steel, 9.7%, the bituminous roadmix pavement, 5.3%. The remaining 30.5% goes to clearing and grubbing, gravel, asphalt surface treatment, asphaltic concrete wearing course, reinforced concrete drain pipe, granite and concrete curb, rails and miscellaneous items.

Reinforcing steel drew bids from $0.13 to $0.16 per lb, structural steel from $0.17 to $0.22. Contractor prices for excavation range from $0.50 per cu yd of muck to $10 for structural excavation. This compares to bids from the competition that ranges from $0.47 to $0.60 per cu yd of muck excavation to $5.00 to $20.00 per cu yd of structural excavation.

Class A concrete contract prices are $28 per cu yd in approach slabs which require a minimum of form work for large amounts of concrete and $48 to $70 per cu yd in various structures. The price range bid by the other bidders runs from $25 to $33 per cu yd in approach slabs to $47.50 to $92 in structures.

Scheduled wage rates range from $2.25 for common to $3.50 for skilled labor.

The four bidders include:

1C Frank Palazzi & Sons, Inc., Johnston, R.I.	$1,342,951
2 Landers & Griffin Inc. and Morrison-Knudsen Co., Inc	1,346,674
4 R. G. Watkins & Son, Inc., Amesbury, Mass.	1,393,215
EE N. H. Dept. of Pub. Wks & Highways	1,337,000

Bids: 9-13-56		Quan-	Unit Prices	
Items	Unit	tity	1	2C
Clear & grubb	ac	35	$550.00	$450.00
Remov, small trees	ea	16	35.00	40.00
large trees	ea	23	80.00	70.00
abandoned rd surf	sy	450	0.20	0.10
Excav, earth	cy	97,000	1.25	1.60
ledge	cy	68,000	1.25	1.60
muck	cy	10,000	0.50	0.60
trench, earth	cy	7,650	1.75	1.85
ledge	cy	3,550	9.00	8.00
chann, uncl	cy	180	1.50	1.00
struct, earth	cy	1,065	2.50	2.50
ledge	cy	740	8.00	9.50
uncl, struct	cy	1,300	3.00	3.00
sta 926 + 64 ±	cy	351	3.00	3.50
sta 959 + 54 ±	cy	270	3.00	3.00
sta 1022 + 30 ±	cy	1,050	10.00	5.00
Borrow, earth	cy	399,000	0.50	0.45
sand	cy	30,000	0.55	0.56
Fine grading	sy	315,000	0.10	0.10
Gravel	cy	60,000	0.80	0.73
backfill	cy	750	1.50	2.50
overhaul	cy-m	133,500	0.60	0.00
crushed	cy	29,000	1.45	1.25
Surf treat, asph, cl A	gal	119,000	0.22	0.19
Wear crse, Type I-1, hot asph conc	t	323	20.00	20.00
Conc, cl A	cy	734	53.50	52.00
sta 926 + 64 ±	cy	731	64.00	52.00
Conc, cl A	cy	190	28.00	32.00
sta 959 + 54 ±	cy	679	60.00	52.00
sta 989 + 24 ±	cy	772	48.00	52.00
sta 1022 + 30 ±	cy	940	70.00	92.00
Steel, reinf	lb	97,982	0.13	0.135
sta 926 + 64 ±	lb	124,895	0.13	0.135
sta 959 + 54 ±	lb	141,869	0.13	0.135
sta 989 + 24 ±	lb	88,859	0.13	0.135
sta 1022 + 30 ±	lb	112,851	0.13	0.135
struct sta 926 + 64 ±	lb	133,000	0.172	0.17
sta 989 + 24 ±	lb	194,000	0.172	0.17
Bridge shoes, sta 926 + 64 ±	unit	1	2,600	2,500
sta 989 + 24 ±	unit	1	2,600	2,500
Mary, mortar rubble	cy	44	40.00	40.00
RCP, std str, 8' long, 12"	lf	520	3.60	3.70
8' long, 15"	lf	440	4.50	4.50
extr str, 24"	lf	248	7.75	8.50
36"	lf	104	12.50	13.00
48"	lf	352	23.00	20.00
dbl extr str, 18"	lf	168	5.65	5.80
24"	lf	156	9.25	9.50
lay 12"	lf	1,752	1.25	1.00

Bids: 9-13-56		Quan-	Unit Prices	
Items:	Unit	tity	1	2C
RCP, lay 15"	lf	1,278	1.50	1.05
18"	lf	1,208	1.60	1.15
24"	lf	104	3.00	2.60
30"	lf	828	4.00	2.90
48"	lf	208	8.50	4.30
Drain pipe, remov & relay, 24"	lf	32	5.00	4.00
Piles, bearing timber	lf	5,800	1.40	1.55
Pile load tests	ea	2	400.00	1,300
driving equip	unit	1	7,500	8,000
Bridge rail E	lf	911	17.00	19.00
Membrane waterproof	sy	1,951	2.25	1.90
RCP underdr, lay 15"	lf	1,552	2.75	1.70
Sewer pipe und, conc, 8"	lf	252	1.75	1.80
12"	lf	708	2.35	2.40
CMP und, bit coat perf, 6"	lf	4,488	1.85	2.00
Curb C, straight granite	lf	775	2.50	3.40
curved granite	lf	10	6.00	7.40
D straight granite	lf	1,550	3.20	3.90
straight granite, brl	lf	945	4.40	5.10
asph conc, type A	lf	11,345	0.60	0.60
type C	lf	3,485	0.60	0.60
Gd rail, multi-cable, std No. GR-2A	lf	9,900	1.90	1.80
std No. Gr-2B	lf	1,300	2.00	1.85
wood, single, No. GR-3A	lf	100	3.00	3.00
Anchorages	ea	65	42.00	40.00
Post markers	ea	160	6.75	6.50
Catch basins, type B	ea	80	200.00	195.00
Half circle sluice, 15"	lf	114	4.00	3.70
Curb inlets, granite Type B, board	ea	55	32.00	32.00
Filler cond, concr enc, 3"	lf	7,500	0.37	0.35
Sidewalk, asph, 2"	sy	1,500	2.60	3.00
Stock wire fence	lf	1,200	4.50	3.10
Uniformed officers	hr	31,000	0.45	0.45
Maintenance of traffic	lf	400	2.50	2.50
Loam 4" deep	sy	14,400	0.10	0.11
Sod	sy	72,800	0.45	0.31
Fertilizer	lb	1,100	1.25	1.25
Grass seed	lb	19,600	0.10	0.07
Mulch	sy	820	1.50	1.20
Water	unit	101,000	0.07	0.04
Bounds setting	ea	2,800	2.00	2.00
		70	11.00	10.00
Sub-total			$1,271,593	$1,281,052
Alternate A				
Pave, rd mix, cl C-2, agg 45	t	11,570		3.60
Asph cutback for C-2 pave	gal	141,000		0.17
Alternate B				
Pave, rd mix, cl C-2, agg 45	t	10,520	5.40	
Bit matl for C-2 pave	gal	97,000	0.15	

To be completed: 9-15-57

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For the sake of a safer, stronger America . . . attendance by everyone concerned is a must!

This message contributed in the interests of better highways for future progress by the McGraw-Hill Construction Publications — ENGINEERING NEWS-RECORD CONSTRUCTION METHODS AND EQUIPMENT • CONSTRUCTION DAILY • INGENIERIA INTERNACIONAL CONSTRUCCION • 330 West 42nd Street, New York 36, New York

Bids Asked—Low Bidders—Contracts Awarded—First Section—

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J. H. WEBBER, M. R. ROESSLER, E. R. HUBER, Statistics.

NEW ENGLAND

HEAVY CONSTRUCTION—BA

† **N. H., Portsmouth**—COMMISSARY STORE, etc.—BA 12/11—U. S. Eng., 150 Causeway St., Boston, Mass., commissary store, recreation workshop, street sign posts and railroad signs, Portsmouth Air Force Base, ENG-19-016-57-102. $300,000-$400,000. Plans deposit $10. CD 11/14.

† **Mass., Chicopee Falls**—RECREATION WORKSHOP—BA On Or About 12/12—U. S. Eng., 150 Causeway St., Boston, Zone 14, recreation workhouse, Stony Brook Air Force Station, ENG-19-016-57-98. $50,000-$100,000. Plans deposit $25.

† **Mass., Lincoln**—MICROWAVE TOWER, etc.—BA On Or About 12/18—U. S. Eng., 150 Causeway St., Boston, Zone 14, microwave tower and two electronic equip. shelters on existing Bldg. B, Air Force Cambridge Research Center, ENG-19-016-57-90. $200,000-$300,000. Plans deposit $10.

† **Mass., Lincoln**—SCIENCES LABORATORY—BA On Or About 12/20—U. S. Eng., 150 Causeway St., Boston, Zone 14, Sciences Laboratory Wing C, Air Force Cambridge Research Center, ENG-19-016-57-93. $800,000-$900,000. Plans deposit $25.

BUILDINGS—BA

Vt., Montpelier—HALL—BA 12/4—Vermont Junior College, College Ave., constr. Central Hall and Dormitory (2 bldgs.) $500,000. Sturgis Assoc., Inc., 120 Boylston St., Boston, Mass., archt. A. Ehrenzeila, Inc., 325 Washington St., Dorchester, Mass., mech. engr. CD 9/12.

Conn., Canton—SCHOOL—BA 12/6—Town, Town Hall, 14,000 sq. ft. addnl. classrooms, gymnasium and alteration to high school. $355,000. Malmfeldt Assoc., 36 Pearl St., Hartford, archts. CD 11/8.

Mass., Boston—SCHOOL—BA 12/6—Temple Israel, c/o Murray Weiss, 260 Riverway, (selected list bidders), 3 story, masonry school Riverway and Longwood Ave. $400,000. J. Frederick Krokyn, 184 Boylston St., archt. CD 6/18/54.

Mass., Haverhill—Y.M.C.A. BLDG.—BA 12/11—Young Men's Christian Assoc., Winter St., 3 story, brick Y.M.C.A. bldg., incl. dormitory. $400,000-$500,000. Clinton F. Goodwin, 25 Washington St., archt. CD 1/18.

Conn., Cromwell—SCHOOL—BA 12/12—Town, School Bldg. Comm., Town Hall, 17,750 sq. ft. 13 classrooms, library, high school addn. $350,000. Plans deposit $50. Malmfeldt Assoc., 36 Pearl St., Hartford, archts. CD 10/11.

▲† **Mass., Ayer**—BARRACKS—BA On Or About 12/15—Purch. & Contg. Officer, Bldg. P-24, Ayer, modernization men's barracks, Fort Devens, ENG-A1-19-035-57-55, $1,100,000-$1,300,000.

▲ **R. I., Cranston**—HIGH SCHOOL—BA 12/19—City, School Comm., Park Ave., Junior-Senior High School, off Phenix Ave. $3,535,000. Plans deposit $100. Cull, Robinson & Green, 385 Benefit St., Providence, archts.

† **R. I., Newport**—WAREHOUSE—BA 12/19—First Naval Dist., 495 Summer St., Boston, Mass., 160 67×202 ft. flammable warehouse, U. S. Naval Supply Depot, NAy 5062, Spec. 5062/56. $200,000. Plans deposit $15. Cull, Robinson & Green, 385 Benefit St., Providence, archts. CD 3/29.

HEAVY CONSTRUCTION—LB & CA

▲ **MASSACHUSETTS**—Commonwealth of Mass., Dpt. P. Wks., 100 Nashua St., Boston.
Charles Capone Constr. Co., Inc., 850A Providence Hy., Dedham, Mass. CA $1,663,645, est. $1,563,841. reconstr. Sect. Rte. 1, Providence Turnpike, Norwood and Westwood. CD 11/2, under LB.

▲ **MASSACHUSETTS**—Commonwealth of Mass., Dpt. P. Wks., 100 Nashua St., Boston.
West End Iron Works, 110 Ringe Ave., Cambridge, Mass. CA $1,265,000, est. $1,120,000. furnishing, erecting and painting structural steel for bridge, I-350 (2), Andover and Methuen. CD 10/18, under LB.

Builders Iron Works, 24 Dane St., Somerville, Mass. LB $143,855, est. $200,000. bridge reconstr. Massachusetts Ave. bridge over N. Y., N. H. & H. R.R., BOSTON, MASS. City, Dpt. P. Wks., City Hall Annex, Boston, Mass. Bids Nov. 15. CD 10/24.

CONNECTICUT—State Hy. Dpt., 165 Capitol Ave., Hartford.
D. Arrigoni, 605 Main St., Middletown, Conn., CA $742,457, Proj. 82-99, b. conc. paving 12,895 lin. ft. Hartford Research Facility access road, incl. 2 corrugated structural plate pipe arches, etc., Middletown. Bids Sept. 5, awarded Nov. 14. CD 9/11, under LB.

CONNECTICUT—State Hy. Dpt., 165 Capitol Ave., Hartford.
Conn—Oneglia & Gervasini, Inc., 3 Casson Ave., Torrington, Conn., LB $91,327 (7 bidders) Proj. 29-58, bridges, pipe arches, 3 locations, etc., Colebrook; LB $87,542 (8 bidders) Proj. 162-67, bridges over Mad River at Rugg Brook Rd. and Yates Rd. and approaches, etc., Winchester.
Conn—Golden & O'Brien Co., 479 Main St., Indian Orchard, Mass., LB $113,936 (5 bidders) Proj. 134-81 precast, prestressed bridge over Furnace Brook, 2,020 lin. ft. approaches on Route 19, Stafford. Bids Nov. 13. CD 10/31.

† **Turner & Breivogel, Inc.**, Falmouth Heights, Mass., LB $48,832, est. $66,240. groins, Prospect Beach, West Haven, CIVENG-19-016-57-42, CONNECTICUT. U. S. Eng., 150 Causeway St., Boston 14, Mass. Bids Nov. 15. CD 11/2.

William McGowan, Shore Rd., Sound View, Old Lyme, Conn., LB $49,720 (3 bidders) Proj. BI-FD-98, placement of sand fill, White Sands Beach, OLD LYME, CONN. State P. Wks. Dpt., State Office Bldg., Hartford, Conn. Bids Nov. 14. CD 11/9.

New England Dredge & Dock Co., 60 S. Water St., New Haven, Conn., LB $86,730 (1 bidder) Proj. BI-FB-58, placement of sand fill, Sasco Hill and Southport Beaches, SOUTHPORT, CONN. State P. Wks. Dpt., 165 Capitol Ave., Hartford, Conn. Bids Nov. 14. CD 11/9.

C. F. Wooding Co., 43 Wallace Ave., Wallingford, Conn., CA $50,000. storage tank and control house, Masonic Home property, WALLINGFORD, CONN. Town, Water Dpt., Box 357, Wallingford, Conn. Awarded Nov. 2. CD 1/9/45.

BUILDINGS—LB & CA

† **Joseph A. Bass Co.**, Sexton Bldg., Minneapolis, Minn. LB $200,000. combined bid, RECEIVER and TRANSMITTER BLDG. addns., HEATING PLANT addn., Caswell, Me., Charleston, Me., and St. Albans, Vt., ENG-19-016-57-78, MAINE and VERMONT. U. S. Eng., 150 Causeway St., Boston, Mass. Alonzo B. Reed, 88 Broad St., Boston, Mass., archt.-engr. Bids Nov. 15. CD 10/23.

Charles J. Fiske, 76 River St., Woodstock, Vt., LB $645,186. HIGH SCHOOL addns., alterations, HANOVER, N. H. Hanover, N. H. School Dist., c/o Supt. Schools, Lebanon St., Hanover, N. H. Bids Nov. 14. CD 10/18.

Sprague Bros., 30 Charlotte Ave., Nashua, N. H., LB $144,000. INDUSTRIAL BLDG., MILFORD, N. H. Hendrix Wire & Cable Corp., c/o Koehler & Isaak, archts., 1880 Elm St., Manchester, N. H. Bids Nov. 14. CD 11/12.

J. F. Rand & Son, 57 Sudbury St., Boston, Mass. LB $659,243. ELEMENTARY SCHOOL, Washington St., Proj. Mass. 56-C-502-A6, AYER, MASS. Town, Elementary School Bldg. Comm., c/o Supt. Schools, Ayer, Mass. Bids Nov. 14. CD 10/23.

Hew Constr. Co., 684 Washington St., Boston, Mass. CA Approx. $100,000. FACTORY addn., alterations, Locust and Von Hillern Sts., DORCHESTER, MASS. Stern Can Co., Inc., 71 Locust St., Dorchester, Mass. Bids Oct. 17. CD 10/1.

H. P. Cummings Constr. Co., 14 Prospect St., Ware, Mass. CA Approx. $500,000. ACADEMIC BLDG., GROTON, MASS. Lawrence Academy, Main St., Groton, Mass. Bids Nov. 7. CD 10/29.

Fontaine Bros., Inc., 40 Hendrick St., Chicopee Falls, Mass. CA $818,119, est. $800,000. M-505, ASSEMBLY BLDG., State Hospital, MONSON, MASS. State, Dpt. Mental Hospital, c/o Div. Bldg. Constr., 30 Chauncy St., Boston, Mass. CD 10/23, under LB.

Aberthaw Constr. Co., 60 State St., Boston, Mass. CA Approx. $300,000. DIAL WAREHOUSE and OFFICE BLDG. No. 3, New England Industrial Center, NEEDHAM, MASS. B. F. Goodrich Co., 894 Commonwealth Ave., Boston, Mass. Cabot, Cabot & Forbes Co., 60 State St., Boston, Mass., engr.

Aberthaw Constr. Co., 60 State St., Boston, Mass. CA Approx. $500,000. WAREHOUSE and OFFICE, Needham Industrial Center, NEEDHAM, MASS. General Tire & Co., 565 Commonwealth Ave., Boston, Mass. Cabot, Cabot & Forbes Co., 60 State St., Boston, Mass., eng.

Aberthaw Constr. Co., 60 State St., Boston, Mass. CA Approx. $275,000. 25,000 sq. ft. WAREHOUSE and DISTRICT OFFICE, Needham Industrial Center, NEEDHAM, MASS. Sharp & Dohme, Div. Merck & Co., Inc., 127 Clarendon St., Needham, Mass.

▲ **M. I. O'Connor, Inc.**, 694 Bridge St., Northampton, Mass. LB $1,880,000, est. $1,808,000. M-718 ADMISSION-TREATMENT BLDG., State Hospital, NORTHAMPTON, MASS. State, Dpt. Mental Health, c/o Div. Bldg. Constr., 38 Chauncy St., Boston, Mass. Bids Nov. 16. CD 10/31.

H. U. Bail Sons, Inc., 9 Franklin St., Southbridge, Mass. LB $719,171, est. $700,000. HOSPITAL addn., alterations, 100 South St., SOUTHBRIDGE, MASS. Harrington Memorial Hospital, South St., Southbridge, Mass. Bids Nov. 15. CD 11/13.

Aberthaw Constr. Co., 60 State St., Boston, Mass. CA Approx. $450,000. 40,000 sq. ft. WAREHOUSE and OFFICE, Waltham Industrial Center, WALTHAM, MASS. Crucible Steel Co. of America, Oliver Bldg., Pittsburgh, Pa. Cabot, Cabot & Forbes Co., 60 State St., Boston, Mass., engr.

State P. Wks. Dpt., State Office Bldg., Hartford, Conn., received no bids Nov. 14, INMATE DORMITORY, Conn. Reformatory, Proj. BI-EE-21, CHESHIRE, CONN. CD 10/19.

C. & J. Constr. Co., 2270 Whitney Ave., Hamden, Conn., CA $150,000. 100x150 ft., brick PRINTING PLANT, Welton St., HAMDEN, CONN. Columbia Printing Co., 174 Commerce St., New Haven, Conn. Bids Nov. 1, awarded Nov. 15. CD 10/30.

Ley Constr. Co., 124 State St., Springfield, Mass., CA Est. Approx. $520,000, 52,000 sq. ft. WAREHOUSE and OFFICE, HARTFORD, CONN. Rourk-Eno Paper Co., Inc., 58 Allyn St., Hartford, Conn. Awarded Nov. 15. CD 9/11/46.

Paterson Constr. Co., Inc., 66 Anderson St., New Haven, Conn., CA, $475,000. LIBRARY, ACADEMIC BLDG., ADMIN. OFFICE, STUDENT CENTER, Prospect St., NEW HAVEN, CONN. Berkeley Divinity School, 38 Hillhouse Ave., New Haven, Conn. Awarded Nov. 15. CD 3/8.

W. J. Megin, Inc., 51 Elm St., Naugatuck, Conn., CA, $120,000. metal roof on existing FACTORY, SEYMOUR, CONN. Kerite Co., 49 Bay St., Seymour, Conn. Awarded Nov. 15.

Bethany Lutheran Church, 1655 Boulevard, West Hartford, Conn., rejected bids Sept. 25, PARISH HOUSE and CHURCH superstructure, S. Main St. and Boulevard, WEST HARTFORD, CONN. Est. $360,000. CD 9/21.

MIDDLE ATLANTIC

HEAVY CONSTRUCTION—BA

Md., Rockville—BA 12/5—Montgomery Co., M. A. Butcher, dir. Pub. Wks. Dpt., County Office Bldg., Contr. S-993, street impvs., along Brunswick Ave. in Oakland Terrace. Plans deposit $5.

† **N. Y., Newburgh**—FACILITIES—BA 12/6—U. S. Eng., 111 E. 16 St., New York, Zone 3, air force facilities, FY 1957 program, service men's club, Stewart Air Force Base, ENG-30-075-57-217. CD 11/1.

PROJECTS COVERED

By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterways $44,000; other public works $73,000; industrial buildings $93,000; other buildings $344,000. Also Foreign projects of $100,000 and more in size of interest to American contractors.

By Regions & Classes of Construction
(In order of Listing)

BIDS ASKED
LOW BIDDERS
CONTRACTS AWARDED

New England	Middle West
Middle Atlantic	West of Mississippi
South	Far West

PROPOSED WORK

Water Supply	Public Buildings
Sewers, Waste Disposal	Mass Housing
Bridges	Commercial Buildings
Streets & Roads	Industrial Buildings
Earthwork, Waterways	Unclassified

In These Stages

PROPOSED WORK: Before and including appointment of engineers or architects.
BIDS ASKED: BA (new announcements only). For full calendar, see also preceding issues.
SOON LETS CONTRACT: SLC
LOW BIDDERS: LB On jobs below $500,000 in value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.
CONTRACTS AWARDED: CA Except awards to low bidders previously reported in low bidder stage.

CD dates shown are of Construction Daily issue in which last previous report was published.

OWNERS, ENGINEERS, ARCHITECTS, CONTRACTORS are invited to report their new jobs for listing in these reports when they meet or exceed the size minimums shown above. Address these news releases to J. A. Mahoney, REPORTS, ENGINEERING NEWS-RECORD, 330 W. 42 St., New York 36, N. Y.

Symbols and Abbreviations Include:

†	Federal Government
▲	Project of $1,000,000 or over.
ENR	Engineering News-Record
CD	Construction Daily

For additional reports see Construction Daily.

N. Y., Roslyn—ELECTRIC WORK—BA 12/6—North Hempstead Housing Auth., Pond Hill Rd., Manhasset. Contr. No. 8, electric work for Laurel Homes, Proj. No. N.Y.S. 41C. Plans deposit $25.

† N. Y., Fort Jay—REPLACING EXISTING WEST RACK—BA 12/11—U. S. Eng., 111 E. 16 St., New York, Zone 3, replacing existing west rack, Fort Jay, Governors Island, ENG-30-075-57-213. CD 11/1.

Pa., Phila.—BA 12/12—General State Auth., 18 and Herr Sts., Harrisburg, sewage lines at Phila. State Hospital to connect with city's interceptor sewerage system; H. A. Kuljian & Co., 1200 N. Broad St., engrs. CD 3/1, under Public Buildings.

Pa., Bethel—BA 12/13—Municipal Auth., Boro of Bethel, Allegheny Co., sanitary sewerage sys., McLaughlin Run Watershed, collection sewers; Contr. B, comprising collection sewers for Brightwood area, collecting sewers for Cloverdale area and collecting sewers for Nick Nester area; Contr. C, collecting sewers for Logan-Clifton Rd. area, collecting sewers for Oakhurst area, collecting sewers for Bethel Village area, and collecting sewers for Fort Couch Village area; Contr. D, collecting sewers for Brookside Farms area, collecting sewers for Drakeside area, collecting sewers for Ruthfred area; Contr. E, rehab. of existing sanitary sewers in Ruthfred area, eastern section. Plans deposit $25, The Chester Engineers, 601 Suismon St., Pittsburgh, Zone 12, engrs. CD 9/3/53.

† N. Y., Westhampton Beach—DORMITORY—BA On Or About 12/18—U. S. Eng., 111 E. 16 St., New York, Zone 3, airmen dormitory, Suffolk County Air Force Base, ENG-30-075-57-248, $250,000-$300,000. Plans deposit $100. CD 10/24/55.

N. Y., White Plains—BA 12/18—Comr. Pub. Wks., 255 Main St., 400 ton municipal refuse incinerator plant. Plans deposit $100, Metcalf & Eddy, 1300 Statler Bldg., Boston, Mass., engrs.

† N. Y., Rome—PARACHUTE and DINGHY SHOP—BA On Or About 12/19—U. S. Eng., 111 E. 16 St., New York, Zone 3, parachute and dinghy shop, Griffiss Air Force Base, ENG-30-075-57-189, $400,000-$500,000. Plans deposit $10. CD 10/19/55.

† N. Y., Mitchel Field—SWITCHGEAR, etc.—BA On Or About 12/20—U. S. Eng., 111 E. 16 St., New York, Zone 3, switchgear and modification of electrical distr. sys., Mitchel Air Force Base, ENG-30-075-57-50. $150,000-$200,000. Plans deposit $10. CD 10/25, under LB.

† New York—BA On Or About 1/23—U. S. Eng., Engineer Park, Niagara and Bridge Sts., Buffalo, Zone 7, electrical sys. installation Dwight D. Eisenhower (Robinson Bay) Lock, St. Lawrence Seaway, St. Lawrence River, for St. Lawrence Seaway Development Corp., CIVENG-30-023-57-34. CD 9/9/54.

BUILDINGS—BA

N. Y., Cortlandt—SCHOOL—BA 12/5—At Board Room, High School, Croton-on-Hudson, addn., alteration to Croton-Harmon High School, for Bd. Educ., Union Free School Dist. No. 2, towns of Cortlandt and Yorktown. Extended date. Carr & Wiggins, 11 W. 42 St., New York, archts. adv. ENR 11/29. CD 10/24.

N. J., Vernon—SCHOOL—BA 12/6—Bd. Educ., Vernon Twp., Vernon, consolidated grade school, Vernon Twp., $487,000. Pohlman & Henry, 1140 E. Jersey St., Elizabeth, archts.

N. Y., Garden City—HEADQUARTERS—BA 12/11—County Executive Nassau Co., Old County Court House, Mineola, addn., alterations to Nassau County police headquarters; Contr. 1063-L-1 to L-4. Plans deposit $75 general constr., $50 for trades, heating, ventilating and air-conditioning, plumbing and electrical work.

N. Y., New York—SCHOOL—BA 12/12—Director Bureau Constr., 42-15 Crescent St., Long Island City, Zone 1, general constr. P.S. 144 W. 122 St. between Lenox and 7th Aves., Manhattan Boro. Plans deposit $25.

▲ N. Y., Brooklyn—SCHOOL—BA 12/14—Director Bureau of Constr., 42-15 Crescent St., Long Island City, Zone 1, general constr. Junior High School 211, Ave. K. between 100 and 101 Sts. Plans deposit $25. CD 11/15/54.

New York—SCHOOL—BA 12/18—Director Bureau Constr. 42-15 Crescent St., Long Island City, Zone 1, general constr., P. S. 105, Beach 51 St. between Elizabeth Ave. and Beach Channel Dr., Queens. Plans deposit $25.

▲ N. Y., Brooklyn—SCHOOL—BA 12/19—Director Bureau Constr., 42-15 Crescent St., Long Island City, Zone 1, general constr. Junior High School 265, North Oxford St. between Park and Flushing Aves. Plans deposit $25. CD 3/2/55.

HEAVY CONSTRUCTION—LB & CA

Seaboard Structural Steel Div., A. S. Wikstrom, Inc., 100 S. French St., Wilmington, Del. LB $226,002. 16 hatch covers; LB $81,723. 48 intake hoist hatch covers; $307,225 combination; for Barnhart Island Power Plant, Spec. No. PA-5-15051, St. Lawrence Constr. No. P41, NEW YORK. The Power Authority of the State of New York, 270 Broadway, New York 7, N. Y. Bids Nov. 15. CD 10/11.

▲ Vanbro Contg. Corp., Emery Court, Eltingeville, Staten Island 12, N. Y. CA $1,987,000. (3 bidders) Seaside Blvd. imprvt. Contr. 1, grading, paving, curbs, sidewalks and utilities Miller Field to Winfield St.; Richmond Boro, NEW YORK. President Richmond Boro, Boro Hall, St. George, Staten Island 1, N. Y. CD 9/26, under LB.

▲ Nazarro Constr. Corp. & A. Vespa, Inc., 26 Harold St., Greenvale, N. Y. LB $1,089,845. (8 bidders) storm sewer through lands under jurisdiction of Department Marine & Aviation in the prolongation of Paerdegat 13th St. from U. S. pierhead and bulkhead line of Paerdegat Basin to Paerdegat Ave., north; storm and sanitary sewers and grading, Paerdegat 13 St., Ave. N., Paerdegat Ave., E. 83 St., E. 84 St., E. 85 St., E. 86 St., E. 87 St. and E. 88 St., Seaview Ave., BROOKLYN, N. Y. President Brooklyn Boro, Boro Hall, Brooklyn, N. Y. Bids Nov. 14. CD 11/7.

▲ Harry Hershon Co., Inc., 1860 Broadway, New York 23, N. Y. LB $1,223,560. general superstructure for Kent Avenue Power Plant, Contr. No. P-128, BROOKLYN, N. Y. New York City Transit Auth., 370 Jay St., Brooklyn 1, N. Y. Bids Nov. 2. CD 10/3;
Abraham Newmeyer, 211-13 Jamaica Ave., Queens Village, N. Y. LB $79,555. Contr. 3, plumbing work (Brooklyn, N. Y.).

P. J. Carlin Constr. Co. & Thomas Crimmins Contg. Co., 41-17 Crescent St., Long Island City, N. Y. (joint-venture) LB $862,885. (2 bidders) demolition excav., concrete work for coal and ash handling facilities for 74 Street Power Plant, Manhattan, Contr. No. P-89, NEW YORK, N. Y. New York City Transit Auth., 370 Jay St., Brooklyn 1, N. Y. Bids Nov. 9. CD 10/10.

Rosoff Bros., Inc. & Amdor Structures, Inc., 156 E. 83 St., New York 28, N. Y. (joint venture) LB $997,406. (3 bidders) general superstructure at 59 Street Power Plant, Manhattan, Contr. P-166, NEW YORK, N. Y. New York City Transit Auth., 370 Jay St., Brooklyn 1, N. Y. Bids Nov. 9. CD 10/10.

▲ Westinghouse Air Brake Co., 350 Fifth Ave., New York 1, N. Y. LB $9,395,000 (2 bidders) furnishing, installing block signaling and interlocking equip. for Broadway-7th Avenue Line 34 St., interlocking to 96 St. interlocking IRT Division, Manhattan Contr. S-91, NEW YORK, N. Y. New York City Transit Auth., 370 Jay St., Brooklyn 1, N. Y. Bids Nov. 16. CD 10/22.

▲ Peerless Constr. Co., Inc., and L. I. Waldman & Co., 40-01 29 St., Long Island City, N. Y. LB $1,096,955. (4 bidders) platform extensions and gap fillers at 14 St.-Station of Lexington Ave. Line, Manhattan, Contr. No. C-117, NEW YORK, N. Y. New York City Transit Auth., 370 Jay St., Brooklyn 1, N. Y. Bids Nov. 16. CD 10/22.

Queens Structure Corp., 32-57 57 St., Woodside, N. Y. CA $670,165 (5 bidders) Contr. No. 85 replacement relief sewer in E. 74 St. from about 185 ft. east of Second Ave. to East River, incl. new lateral connections at intersections of First Ave. and York Ave. from sewer in E. 74 St. to north and south house lines of E. 74 St., NEW YORK, N. Y. President Manhattan Boro, Municipal Bldg., New York 7, N. Y. CD 10/4, under LB.

▲ A. E. Ottaviano, Inc., 80 Brook St., Croton-on-Hudson, N. Y. CA $1,647,476. Contr. No. 820 northbound roadway wid'n. existing bridges and appurtenant work on Saw Mill River Parkway between Yonkers Ave. and Tube Wells Waterworks, City of Yonkers, WHITE PLAINS, N. Y. Dpt. P. Wks., Westchester Co., County Office Bldg., White Plains, N. Y. Bids Oct. 24. awarded Nov. 2. CD 10/31, under LB.

PENNSYLVANIA—State Hy. Dpt., 506 N. Office Bldg., Harrisburg.

James D. Morrissey, Inc., 9119 Frankford Ave., Phila. 14, Pa. CA $524,341. (9 bidders) constr. 11,246 ft. crushed aggregate Base with bit. surf. Falls and Lower Makefield Twps., L.R. 778 (4), Bucks Co. Bids Sept. 14, awarded Nov. 15. CD 9/19, under LB.

Union Paving Co., 1 East Wynnewood Rd., Wynnewood, Pa. CA $197,296. Bid No. 3899, resurf. Frankford Ave. from Delaware Ave. to Tioga St., PHILA., PA. City, Dpt. Procurement, City Hall Annex, Phila., Pa. Bids Oct. 11. CD 10/28/43.

MARYLAND—State Rds. Comm., 108 E. Lexington St., Baltimore, Zone 2.

Ole Hansen & Sons, 22 N. Franklin Rd., Pleasantville, N. J. LB $442,469. 5 span dual prestressed concrete beam bridges on U.S. 301 over Patuxent River, near GlenBurnie, Contr. AA 485-7-520, Anne Arundel and Prince George Counties. Bids Nov. 13. CD 10/31.

MARYLAND—State Rds. Comm., 108 E. Lexington St., Baltimore, Zone 2,

Central Pennsylvania Quarry Stripping & Constr. Co., 270 S. Pine St., Hazleton, Pa. CA $736,698. grading, surf. 3.706 mi. Frederick-By-Pass, Contr. F 490-14-720, Frederick Co. CD 11/3, under LB.

† U. S. Eng., First and Douglas Sts. N. W., Wash. 25, D. C. cancelled bids to have been opened Nov. 27, dental clinic, ENG-49-089-57-34-(34), ANDREWS AIR FORCE BASE, MD. CD 11/1.

Mahoney Bros., Knickerbocker Bldg., Baltimore 2, Md. LB $81,096. Hy. Contr. 1430, sheet asph., BALTIMORE, MD. City Bureau Hys., 303 Municipal Bldg., Baltimore 2, Md. Bids Nov. 7. CD 10/31.

Chas. F. Meyer, Box 114, Hanover, Pa. LB $110,564. Contr. 527 D.S.&W., Items 1, 2, 3, 4, 5, 6, 16, 17, and 19, TOWSON, MD. Comrs. Baltimore Co., County Office Bldg., Towson, Md. Bids Nov. 2. CD 10/16.

Thompson, Grace & Mays, 518 York Rd., Towson, Md. LB $126,495. Items 1, 2, 3 and 4, Contr. 529 D.S.&W., various sections, TOWSON, MD. Comrs. Baltimore Co., County Office Bldg., Towson, Md. Bids Nov. 8. CD 10/31.

BUILDINGS—LB & CA

† Joseph E. Bennett Co., Inc., 2 Elm Place, Brookline 46, Mass. CA $708,200. ADMINISTRATION BLDG., St. Lawrence Seaway, Massena for St. Lawrence Seaway Development Corp., CIVENG-30-023-56-32, NEW YORK. U. S. Eng., Niagara and Bridge Sts., Buffalo 7, N. Y. Bids Oct. 24. CD 10/5.

Sano Rubin Constr. Co., 616 Delaware Ave., Albany, N. Y. CA $696,590. general constr. DORMITORY for State University of College for Teachers, ALBANY, N. Y. Dormitory Auth. of State of New York, 55 Grant Ave., Albany, N. Y. CD 11/2, under LB.

John W. Rouse, Gouverneur, N. Y. CA $901,792. general constr. DORMITORY Units A, B and C State University Agricultural & Technical Institute, ALFRED, N. Y. Dormitory Auth., 55 Grant Ave., Albany 1, N.Y. Bids Oct. 30. CD 10/10.

▲ Lasker-Goldman Corp., 50 E. 42 St., New York, N. Y. CA $4,437,000. general constr. RECEPTION BLDG., Matteawan State Hospital, BEACON, N. Y. Henry A. Cohen, dir. Bureau Contracts & Accounts, The Gov. Alfred E. Smith State Office Bldg., Albany, N. Y. CD 10/22, under LB.
H. Sand & Co., Inc., 11 Park Place, New York 7, N. Y. CA $608,400. heating work. (Beacon, N. Y.).

101 Street Building Corp., 521 Fifth Ave., New York 17, N. Y. Owner Builds. $432,000. 24 HOUSES, 735-61 E. 101 St. and 736-62 E. 102 St., BROOKLYN, N. Y. Morris Rothstein & Sons, 186 Joralemon St., Brooklyn 2, N. Y., archts.

Frechette-Clough Co., Tupper Lake, N. Y. LB $525,000. general constr. Colton-Pierrepont Central SCHOOL addns., alterations, COLTON, N. Y. Central School Dist. No. 1, Colton, N. Y. Bids No. 7. CD 10/12.

Swartout & Rowley, Inc., 548 Mt. Hope St., Rochester, N. Y. CA $700,172. general constr. DORMITORY, State Teachers College, GENESEE, N. Y. Dormitory Auth., 55 Grant Ave., Albany, N. Y. Bids Oct. 25. CD 10/11.

▲ Depot Constr. Corp., 42-15 Crescent St., Long Island City, N. Y. LB $5,900,000. (9 bidders) general constr. FASHION INSTITUTE of TECHNOLOGY, West 27 and 28 Sts., between 7th and 8th Aves., Manhattan, NEW YORK, N. Y. Bd. Educ., Bureau Constr., 42-15 Crescent St., Long Island City 1, N. Y. Bids Nov. 15, CD 10/12;
Forsythe Plumbing & Heating Corp., 234 W. 55 St., New York 19, N. Y. LB $523,455 (9 bidders) plumbing work (New York, N. Y.);
Dierks Heating Co., Inc., 43-52 33 St., Long Island City, N. Y. LB $668,275. (6 bidders) heating work (New York, N. Y.);
Public Improvements, Inc., 356 Broadway, Brooklyn 1, N. Y. LB $1,153,000. electrical work (New York, N. Y.).

▲ Vermilya-Brown Co., Inc., 100 E. 42 St., New York, N. Y. CA Est. $3,000,000. general constr. CHURCH, 38 St. and Park Ave., NEW YORK, N. Y. Church of Our Savior, 65 Park Ave., New York 16, N. Y. Bids Mar. 28. CD 3/23.

▲ Laur & Mack Contg. Co., Inc., 1400 College St., Niagara Falls, N. Y. CA Est. $4,000,000. design and construct PLANT addns. to produce Pliovic vinyl resins, NIAGARA FALLS, N. Y. Goodyear Tire & Rubber Co., (Pathfinder Chemical Corp.); 54 and Baker Sts., Niagara Falls, N. Y. CD 5/11/53.

Alex Zaczek, Deposit, N. Y. CA $730,000. general constr. DORMITORY BLDG. A, Oneonta State Teachers College, ONEONTA, N. Y. Dormitory Auth., 55 Grant Ave., Albany 6, N. Y. CD 10/31, under LB.

▲ Koch Constr. Co., 40 New York Ave., Huntington, N. Y. CA $1,139,500. general constr. John Philip Sousa JUNIOR HIGH SCHOOL, PORT WASHINGTON, N. Y. Bd. Educ., Port Washington, N. Y. Bids Nov. 1, CD 10/17;
Adson Builders, Inc., 55 Queens Blvd., Forest Hills, N. Y. CA $459,000. general constr. Manorhaven SCHOOL addn. (Port Washington, N. Y.).

▲ Cherry Tree Terrace, Inc., 80 Huguenot Ave., Englewood, N. J., Owner Builds. $2,500,000. second section 160 HOUSES, Keyport-New Monmouth Rd., Countryside Estates, MIDDLETOWN, N. J. M. George Vuinovich, 624 E. Palisade Ave., Englewood Cliffs, N. J., archt.

▲ Anad Realty Co., 33 Le Sterling Pl., Clifton, N. J., Owner Builds. $1,000,000. 35 HOUSES, Midland Ave. off Fairview Ave., PARAMUS, N. J.

▲ Seaman Constr. Co., 1028 Princeton Pike, Princeton, N. J. Owner Builds. $1,600,000. 36 HOMES, off Route 206, Autumn Hill Estates, PRINCETON, N. J. Walter E. Chapman, 69 Old Army Rd., Bernardsville, N. J., archt.

Di Pietro Constr. Co., Olcott Ave., Bernardsville, N. J., CA $800,000. PAROCHIAL HIGH SCHOOL, Upper Lake Mohawk, SPARTA, N. J. Paterson Diocese and Parish of Our Lady of the Lake, Lake Mohawk, Sparta, N. J. CD 6/23.

William C. Ehret, 1723 N. Olden Ave. Exten., Trenton, N. J., CA $400,000, 3 story CONVENT with CHAPEL, TRENTON, N. J. Digcese of Trenton, Trenton Trust Bldg., and St. Mary's Parish, 153 N. Warren St., Trenton, N. J. Willis, W. Slack & Son, 1401 W. State St., Trenton, N. J., archts.

Simon Brothers, 678 Maywood Ave., Maywood, N. J., Owner Builds. $800,000. 30 HOUSES, Sussex Rd. and E. Ridgewood, Nomis Estates, WASHINGTON TWP., N. J. Leonard Feinen, 320 Lincoln Ave., Hasbrouck Heights, N. J., archt.

Kirby & McGuire, Inc., 2518 Greenmount Ave., Baltimore 18, Md. LB $153,300. concrete, steel, masonry WAREHOUSE and OFFICE, BALTIMORE, MD. Crucible Center Co., 6311 Erdman Ave., Baltimore, Md. J. L. Faisant & Assoc., 2455 Maryland Ave., Baltimore 18, Md., engrs.

Bethlehem Steel Co., Bethlehem, Pa. Owner Builds. $351,300. concrete, steel, masonry OFFICE, SPARROWS POINT, MD.

Bethlehem Steel Co., Bethlehem, Pa. Owner Builds. $214,000. steel, concrete, timber SHIPWAY STRUCTURE, SPARROWS POINT, MD.

▲ John McShain, Inc., 2501 Sinclair Lane, Baltimore 13, Md. CA $2,097,000. 4 story, brick, concrete, steel COURT HOUSE addn., TOWSON, MD. Comrs. Baltimore Co., County Office Bldg., Towson, Md. CD 9/5, under LB.

Guidera, Lardner & Wish, Inc., 5716 York Rd., Baltimore 12, Md. CA $500,000. 1st proj., 2 story, brick, concrete, steel HIGH SCHOOL, on 36 acres, WESTMINSTER, MD. St. John's R. C. Church, Westminster, Md. Ferdinand P. Kelly, 10 W. 23 St., Baltimore 18, Md., archt.

▲ Joseph Nebel Co., 3408 Wisconsin Ave. N. W. Wash., D. C., CA $3,313,000. Stage 3, NEA Bldg. WASH., D. C. National Education Assn., 1201 16 St. N. W., Wash., D. C. Bids Nov. 15. CD 11/19. Under LB.

SOUTH

HEAVY CONSTRUCTION—BA

† Louisiana—BA 12/4—U. S. Eng., foot of Prytania St., New Orleans, hydraulic work consisting of 1,475,000 cu. yd., Iberia and St. Martin Parishes, Inv. 57-129.

La., Jonesville—BA 12/4—Mayor and Bd., sanitary sewerage sys. improv. Plans deposit $5, Fromherz Engineers, 816 Howard Ave., New Orleans, engrs. CD 6/29/45.

† Va., Williamsburg—HOT WATER LINES—BA 12/4—Dist. P. Wks. Office, Fifth Naval Dist., U. S. Naval Base, Norfolk, Zone 11, replace hot water lines, Defense Housing, Naval Supply Center (Cheatham Annex) NBy-7631, Spec. 7631/56. Plans deposit $25.

† Fla., Green Cove Springs—BUILDING IMPRVS.—BA 12/11—P. Wks. Office, Sixth Naval Dist., Bldg. 12, Charleston, S.C., Building No. 19 impvs., Naval Station, NBy-7817, Spec. 7817/56. Plans deposit $10.

La., New Orleans—OPEN THEATER—BA 12/11—Bd. Levee Comrs., Orleans Levee Dist., Royal and Conti Sts., open air theater in city park, $450,000. Plans deposit $50, Herbert A. Benson & George J. Reibl, 1048 National Bank Bldg., archts.—CD 11/7.

Ala., Birmingham—BA 12/18—Jefferson Co., Courthouse, reseal 10.5 mi. county roads, $80,000. C. J. Rogers, Courthouse, co. engr.

† Florida—BA On Or About 12/21—U. S. Eng., P.O. Box 4970, Jacksonville, Zone 1, Constr. Canal 17, and Structure 44 (vicinity of West Palm Beach) Central and Southern Florida Flood Control Proj., CIVENG-08-123-57-50. CD 8/13.

† Florida—BA On Or About 12/21—U. S. Eng., P.O. Box 4970, Jacksonville, Zone 1, constr. Canal 19, Levees 41 and 42 and Structures 47-B and 47-D, in Glades County, West of Moore Haven, Central & Southern Florida Flood Control Proj., CIVENG-08-123-57-32. CD 8/13.

† S. C., Myrtle Beach—SHOP—BA About 12/21—U. S. Eng., 31 Customhouse, Charleston, constr. automotive maintenance shop, Myrtle Beach Air Force Base, ENG-38-081-57-17. CD 8/27.

† North Carolina—BA 1/3—U. S. Eng., 309 Customhouse, Wilmington, dredging Far Creek, CIVENG-51-075-57-43. Plans deposit 80c.

▲ LOUISIANA—BA 1/16—South Louisiana Turnpike Comn., 304 Chetimaches St., Donaldsonville, Donaldsonville—constr. roadways, floodway trestle, substructures for Bayou Teche, West Levee Lake Rd., Chicot Pass, East levee and Mississippi River Bridges, minor bridges and overpass, interchange structures for the Acadian Thruway. Extended date, Palmer & Baker, National Bank Bldg., New Orleans, engrs. CD 10/16.

BUILDINGS—BA

† Ala., Fort McClellan—CHAPEL—BA 12/4—U. S. Eng., 2301 Grant St., Mobile, Zone 7, 300-person air-conditioned chapel. CD 10/31.

† Ala., Fort McClellan—WAREHOUSE—BA 12/4—U. S. Eng., 2301 Grant St., Mobile 7, 12,000 sq. ft. warehouse. CD 8/30.

† North Carolina—BARRACKS, etc.—BA 12/4—Dist. P. Wks. Office, Fifth Naval Dist., U. S. Naval Base, Norfolk, Va., barracks and subsistence bldg., (Naval Bombing Targets) Pamlico Sound, NBy 7669, Spec. 7669/56. Plans deposit $25.

▲† Ala., Fort McClellan—HOUSING—BA 12/6—U. S. Eng., 2301 Grant St., Mobile, Zone 7, construct and finance 100-housing units, $1,500,000. CD 11/8, under LB.

▲ Va., Fort Story—HOUSING—BA 12/12—U. S. Eng., foot of Front St., Norfolk, construct and finance, Capehart Housing, 30 buildings, 150 units, ENG-44-110-57-1 and 2, $2,400,000. Mills, Petticord & Mills, 3308 14th St., N. W., Wash., D. C., archts.

Fla., Miami—SCHOOL—BA 12/19—Dade Co. Bd. Public Instruc. Admin. Bldg., 275 N.W. 2 St., Bunche Park Junior-Senior High School, $700,000. Igor Polevitsky, 250 N.E. 18th St., archt. CD 10/31.

▲ Ala., Montgomery—STATE OFFICE—BA 1/4—Alabama State Bldg. Comn., State Capitol, Montgomery, reinf.-con. state office bldg. and installing elevators, $3,000,000. Plans deposit $25. Extended date. Charles McCauley, Jackson Bldg., Birmingham, and Cooper Van Antwerp, 354 St. Francis St., Mobile, archts. CD 11/1.

BUILDINGS—SLC

Fla., Cocoa—BUILDINGS, etc.—Air Products, Inc., Box 1121, Chatworth, Calif., soon lets contract, buildings, water sys., site imprvs., installing liquid oxygen production equip. and appurtenant work, Cape Canaveral. Daniel, Mann, Johnson & Mendenhall, 2 Wilshire Blvd., Los Angeles 5, Calif., engrs-archts. CD 11/9.

Ky., Cynthiana—FACTORY—Blake & Johnson, Cynthiana, soon lets contract 1 story, 199x200 ft., concrete slab factory, $400,000. Bayless, Clotfelter & Gray, 59 S. Main St., Winchester, archts.

HEAVY CONSTRUCTION—LB & CA

▲ SOUTH CAROLINA—State Hy. Dpt., Columbia, S. C.—Blackmon & Wham, Inc., Mountville, S. C., LB $73,491 (9 bidders) 288 ft. rein.-con., structural steel underpass (under Georgia Rd.) US Rte. 276, S. C. Docket No. 23.397.2, F. A. Proj. No. F-FG-303 (4), Greenville Co.;

S. C.—Copeland Constr. Co., Orangeburg, S. C., LB $122,506 (4 bidders) 350 ft. rein.-con. bridge over Thicketty Creek, US Rte. 29, S. C. Docket No. 11.333.1, F. A. Proj. No. IN-301-2 (2), Cherokee Co.;

S. C.—Frank W. LaMotte, 815 Woodland Dr., Columbia, S. C., LB $190,497 (7 bidders) constr. 450 ft. rein.-con., structural steel bridge over Pacolet River, north bound lane of US Rte. 29, S. C. Docket No. 42.448, F. A. Proj. No. IN-301-2 (2), Spartanburg Co., LB $81,596 (7 bidders) constr. 360 ft. rein.-con. bridge over Buffalo Creek, US Rte. 29 near Blacksburg, S. C. Docket No. 11.333.2, F. A. Proj. No. IN-301-2 (2), Cherokee Co.;

S. C.—McMeekin Constr. Co., Cheraw, S. C., LB $536,506 (5 bidders) constr. 648 ft. rein.-con., structural steel bridge, incl. 245 ft. swing span over Stono River on Road 20, S. C. Docket No. 10.437, F. A. Proj. No. S-106 (3), Charleston Co. Bids Nov. 13. CD 11/2.

▲ SOUTH CAROLINA—State Hy. Dpt., Columbia, S. C.—J. F. Cleckley & Co., Orangeburg, S. C. LB $146,600 (3 bidders) bit. surf. 13.392 mi. Roads S-652, S-231, S-42, S-502, S-196, S-673, S-1105, S-946, S-1104, S-1029, S-147, S-629, S-964, S-1106, S-180, S-1112, S-1127, S-45, S-1119, S-1118, S-269, S-271, S-518, S-115, S-183, S-1121, S-1120, S-1022, S-231, S-967, S-1122, S-1123 and S-1124, S. C. Docket No. 38.466, Orangeburg Co.;

S. C.—Ralph W. Crowe, Woodruff, S. C., LB $78,051 (10 bidders) bit. surf. 6.694 mi. Roads 177, 178 and 180, S. C. Dockets Nos. 24.313 and 24.314, F. A. Proj. S-1001 (1), Greenwood Co.;

S. C.—Fox Constr. Co., Inc., R. F. D., Lexington, S. C., LB $172,315 (3 bidders) bit. surf. 12.675 mi. Roads 82, 127, 117, 235, 43, 51, 122, 132, 72, 237, 88, 214, 197, 252, 118 and 236, S. C. Docket No. 41.302, Saluda Co.;

S. C.—Guss-Carpenter, Inc., Monroe, N. C., LB $94,042 (4 bidders) bit. surf. 8.443 mi. Roads S-252, S-253, S-98, S-641, S-642, S-648, S-653 and S-1157, S. C. Docket No. 46.421, York Co.;

S. C.—Kraft & Newell, Florence, S. C., LB $117,325 (6 bidders) bit. surf. 10.011 mi. Roads S-55 and S-278, S. C. Docket No. 21.407, F. A. Proj. Nos. S-332 (3) and S-996 (1), Florence Co.;

S. C.—Robert E. Lee & Co., Inc., Manning, S. C., LB $120,382 (7 bidders) bit. surf. 12.184 mi. Roads S-52, S-37, S-162, S-317, S-311 and S-156, S. C. Dockets Nos. 31.266 and 31.267, F. A. Proj. Nos. S-845 (3) and S-917 (3), Lee Co.; LB $80,468 (9 bidders) bit. surf. 7.988 mi. Roads S-398, S-656, S-41 and S-23, S. C. Dockets Nos. 16.362, 16.353, F. A. Proj. Nos. S-978 (1) and S-758 (4), Darlington Co.;

S. C.—Mid-State Constr. Co., Inc., Batesburg, S. C., LB $83,114 (8 bidders) bit. surf. 7.577 mi. Roads S-72, S-146, S-197, S-199, S-172, S-189, S-311 and 238, S. C. Dockets Nos. 19.525 and 41.303, Edgefield and Saluda Counties;

S. C.—Davis Moragne, 301 Gladsden St., Columbia, S. C., LB $109,305 (4 bidders) bit. surf. 9.059 mi. Roads 68, 202, 67, 150, 83, 62, 204, 201, 41, 131, 160, 115, 189 and 159, S. C. Docket No. 33.293, McCormick Co.;

S. C.—Davis Moragne, 301 Gladsden St., Columbia, Columbia, S. C., LB $113,342 (13 bidders) bit. surf. 8.105 mi. Roads S-86, S-113 and S-118, S. C. Docket Nos. 44.296 and 44.297, F. A. Proj. No. S-218 (5), Union Co.; LB $94,294 (10 bidders) bit. surf. 9.481 mi. Roads S-43, S-151 and S-196, S. C. Docket Nos. 20.295 and 20.296, F. A. Proj. Nos. S-1019 (1) and S-825 (3), Fairfield Co.;

S. C.—Santee Constr. Co., Inc., Waterboro, S. C., LB $218,204 (2 bidders) bit. surf. 21.132 mi. Roads S-104, S-62, S-35, S-17, S-41, S-225, S-208, S-94, S27, S-51, S-315, S-360 thru S-363, S-219, S-364 thru S-366, S-41, S-47, S-70, S-356, S-367 thru S-370, S-372, S-373, S-351, S-374, S-108, S-375, S-376, S-56 and S-133, S. C. Dockets Nos. 3.297, 25-331 and 25-332, F.A. Proj. Nos. S-1002 (1), S-609 (2), S-1003 (1) and S-331 (3), Allendale and Hampton Counties; LB $142,522 (5 bidders) bit. surf. 15.185 mi. Roads S-44, S-19, S-549, S-91, S-87, S-80, S-172, S-215, S-222, S-55, S-152, S-283, S-171, S. C. Docket No. S-305, Bamberg Co.; LB $124,967 (3 bidders) bit. surf. Roads 202, 233, thru 237, 145, 168, 171 thru 173, 179, 206 thru 215, 217 and 218, S. C. Docket No. 7.316, Beaufort Co.; LB $78,389 (9 bidders) bit. surf. 8.249 mi. Roads S-204 and S-46, S. C. Docket No. 43.348, F.A. Proj. Nos. S-1008 (1), S-1010 (1), Sumter Co.; LB $118,580 (5 bidders) bit. surf. 10.983 mi. Roads 230, 91, 24, 150, 20, 231 and Rte. 27, S. C. Dockets Nos. 18.297 and 18.298, F.A. Projects Nos. S-813 (2), S-1017 (2), S-213 (2), S-875 (2), S-1016 (2) and S-1018 (1), Dorchester Co.;

S. C.—Wham Constr. Co., Anderson, S. C., LB $113,582 (5 bidders) grading, drainage, surf., constr. concrete sidewalk 2.23 mi. Roads S-72, S-166 and S-1687, streets in Greer, S. C. Docket No. 23,402, Greenville Co. Bids Nov. 13. CD 11/2.

▲† M. B. Kahn Constr. Co., 1113 Blossom St., Columbia, S. C., LB $1,124,279. 3 airmen's DORMITORIES and BOILER HOUSE addn., Shaw Air Force Base, No. 38-081-57-7, SUMTER, S. C. U. S. Eng., 31 Customhouse, Charleston, S. C. Bids Nov. 15. CD 10/19.

▲† Lockheed Aircraft Corp., Georgia Div., Marietta, Ga., rejected bids Aug. 1, four 315 ft. high steel towers at Air Force Plant No. 6, for Dpt. Air Force, DAWSONVILLE, GA. CD 8/10, under LB.

▲ Blount Bros. Constr. Co., Box 949, Montgomery, Ala., LB $1,658,603. concrete pile wharf section and sewer culvert, Berths 3, 4 and 5 of Marginal Wharf, MOBILE, ALA. Alabama State Docks Dpt., State Docks Office Bldg., Mobile, Ala. Bids Nov. 6.

† L. H. Simkins, 1129 Broad St., Augusta, Me. CA $104,268. channel imprv., Little Sunflower River, Item L.S.-17, Sharkey Co., consisting of approx. 21.6 mi. clearing and snagging, CIVENG-22-052-57-31, MISSISSIPPI. U. S. Eng., P. O. Box 60, Vicksburg, Miss. Bids Oct. 23. CD 10/2.

† Barnett Brerner, Alexandria, La. CA $872,604, est. $1,000,000-$3,000,000. three airmen's dormitories, England Air Force Base, ALEXANDRIA, LA. U. S. Eng., P. O. Box 867, Little Rock, Ark. Bids Nov. 14. CD 10/31.

Boh Bros., 2400 Cypress St., New Orleans, La. LB $438,000. C. conc. imprvs., GRETNA, LA. Jefferson Parish Police Jury, Gretna, La. Roessle & Galloway, 3012 Metairie Rd., New Orleans, engrs.

KENTUCKY—Commonwealth of Ky., Dept. Hys., Frankfort, Ky.—Carey Constr. Co. & H. C. Adams, Citizens Bank Bldg., Lexington, Ky. LB $445,485 (3 bidders) b. conc. surf. Class I 1.137 mi., Lexington-Richmond Rd., F. 124 (7), SP 34-104, Fayette Co.;

Ky.—Cantrill Constr. Co., 700 N. Broadway, Lexington, Ky. LB $215,830 (3 bidders) bit. surf. Class C-1 (limestone aggregate) 9.277 mi. various roads, S. 126 (4), SP 60-158, S. 140 (5), SP 60-138, Knott Co. Bids Nov. 9. CD 10/25.

† U. S. Eng., 830 W. Broadway, Louisville, Ky. rejected bids Oct. 25, installing air vents and vacuum primers at pumping plants (flood wall) excav., back filling, Paducah, McCracken Co., CIVENG-15-029-57-24, KENTUCKY. CD 10/25.

BUILDINGS—LB & CA

▲ Luchetti Constr. Co., S. Bridge Road, Wheeling, W. Va., LB $1,591,460. CITY-COUNTY BLDG., WHEELING, W. VA. Comrs. Ohio Co. and City, City Hall, Wheeling, W. Va. Frederic Faris, 1117 Chapline St., Wheeling, W. Va., archt. CD 3/1/45.

T. C. Brittain Co., 15 E. Lake Dr., Atlanta, Ga., CA $900,000. 1 story, 125,000 sq. ft. WAREHOUSE & OFFICE, ATLANTA, GA. Butlers, Inc., 820 Spring St. N.W., Atlanta, Ga. Willner & Millkey, 761 Peachtree St. N. E., Atlanta, Ga., archts. Awarded Nov. 16.

Frank J. Walker, 1480 N.E. 131 St., North Miami, Fla. Owner Builds. $500,000. 41-unit APARTMENT, Bay Harbor Dr. and 103 St., BAY HARBOR ISLANDS, FLA. Carlos B. Schoeppl, 2701 Biscayne Blvd., Miami, Fla., archt. Sasnett Eng., Inc., 562 N.E. 79 St., Miami, Fla., mech. engr. J. P. Sweat, 3881 N.E. 8 Lane, Hialeah, Fla., structural engr.

Sam A. Rizzo, 1693 N.E. 123 Ave., North Miami, Fla., CA $530,000. 77 RESIDENCES, between 12 and 14 Ave. N.E. 211 St. to 214 Terrace, NORTH MIAMI, FLA. Suburban Greens, Inc., 1693 N.E. 123 St., North Miami, Fla.

▲ G. L. Christian & Associates, 5225 Hancock St., Houston, Tex. LB $30,953,100, est. $30,000,000. (4 bidders) construct and finance 1- and 2 story family HOUSING, 2,000 units (Capehart), Inv. 57-8, FORT POLK, LA. U. S. Eng., Box 1229, Galveston, Tex. Bids Nov. 16. CD 11/13.

C-B Constr. Co., Box 53, Natchitoches, La. CA $817,012. Natchitoches HOSPITAL, NATCHITOCHES, LA. Natchitoches Parish Police Jury, Natchitoches, La. Bids Oct. 17, awarded Nov. 12. CD 10/24, under LB.

▲ R. P. Farnsworth & Co., 1515 S. Salcedo St., New Orleans, La. CA $2,408,691. 2 story, aluminum glass, concrete LIBRARY, Loyola and Tulane Aves., NEW ORLEANS, LA. City Purch. Div., 302 City Hall, New Orleans, La. Bids Oct. 16, awarded Nov. 13. CD 10/22, under LB.

Orleans Parish School Bd., 703 Carondelet St., New Orleans, La., rejected bids Nov. 7, 1 story, brick Ray Abrams Elementary School, NEW ORLEANS, LA. LB $513,513. CD 11/13, under LB.

Gilson Constr. Co., North Belt Line, Lexington, Ky. LB $479,900 (5 bidders) 1 story Glendower Elementary SCHOOL, LEXINGTON, KY. Fayette Co. Bd. Educ., Lafayette Pkwy., Lexington, Ky. Brock & Johnson, 159 Barr St., Lexington, Ky., archts. Staggs & Fisher, 508 E. Main St., Lexington, Ky., mech. engrs. Bids Nov. 15.

Collins Constr. Co., 3160 Fairfax Rd., Kansas City, Mo. CA Est. $600,000. 210x210 ft., brick, rein.-con. FACTORY, LOUISVILLE, KY. Fruehauf Trailer Co., 10900 Harper St., Detroit, Mich.

Warren Co. Fiscal Court, Bowling Green, Ky. rejected bids Nov. 9, altering COURTHOUSE, BOWLING GREEN, KY. CD 10/24.

MIDDLE WEST

HEAVY CONSTRUCTION—BA

▲ Ill., Chicago—BA 12/3—City, City Hall, Contr. 3-B, sewer constr., south side system, Michigan Ave. and 68 St. $1,500,000. CD 3/19/45.

Mich., Hamtramck—BA 12/4—City, 3201 Roosevelt St., incinerator structure, Alpena St. $350,000. Plans

deposit $25, refundable, Walter J. Rozycki, 2266 E. Forest St., Detroit, Zone 7, archt.

† O., Wilmington—DINING HALL—BA 12/5—U. S. Eng., 237 Fourth Ave., Huntington 18, W. Va., dining hall, Clinton County Air Force Base, ENG-46-022-57-10. Extended date. CD 11/2.

† Mich., Kinross—WORK SHOP—BA 12/6—U. S. Eng., 600 E. Jefferson Ave., Detroit, Zone 26, work shop, Kinross Air Force Base. CD 8/21.

† Michigan—BA 12/7—U. S. Eng., 600 E. Jefferson Ave., Detroit, dredging Cheyboygan Harbor, Cheyboygan. CD 9/9/55.

Ill., Waukegan—BA 12/13—North Shore Sanitary Dist., Waukegan Sewage Treatment Plant, Dahringer Rd., Waukegan, Div. C, sewerage and sewage disposal impvts., Clavey Road Sewage Treatment Plant. Plans deposit $20. Greeley & Hansen, 220 S. State St., Chicago, Ill., engrs. CD 8/26/52.

BUILDINGS—BA

Mich., Belleville—SCHOOL—BA 12/3—Bd. Educ., Van Buren Schools, Robert Hay, secy., 501 W. Columbia St., Rawsonville. Elementary School. Plans deposit $30, refundable. Eberle M. Smith Assoc., Inc., 153 E. Elizabeth St., Detroit, Zone 1, archt.

Ind., Indianapolis—SCHOOL—BA 12/4—Bd. School Comrs., City of Indianapolis, 150 N. Meridian St., elementary school. $500,000-$700,000. Plans deposit $25. McGuire & Shook, 1400 Fletcher Trust Bldg., archts. J. M. Rtoz Eng. Co., 1919 N. Meridian St., consult. engr.

Mich., Eloise—POWER HOUSE—BA 12/10—Bd. Auditors Wayne Co., City-County Bldg., Detroit, Zone 26, (1) general and electric trades for rehabilitation of power house, (2) mechanical equip. for power house, Wayne County General Hospital and Infirmary. Plans deposit (1) $25, (2) $50. H. E. Beyster & Assn., Inc., 700 Griswold Bldg., Detroit, Zone 26, archt. CD 5/11/54.

Mich., Port Huron—PUBLIC HEALTH—BA 12/11—Bd. Supervs. St. Clair Co., J. Harland Patterson, secy., Port Huron, public health bldg. $500,000. Plans deposit $25, refundable. Wyeth & Harman, 1602 Military Ave., archts. CD 8/1.

O., Alliance—OFFICE, etc.—BA 12/11—Conrad & Simpson, archts., Hanna Bldg., Cleveland, Zone 15, 2 story, English bsmnt., rein.-con., steel, brick and tile business office and dial-exchange for Ohio Bell Telephone Co., 750 Huron Rd., Cleveland, Zone 15. $600,000-$700,000. CD 11/7.

Mich., Inkster—SCHOOL—BA 12/12—Bd. Educ., Cherry Hill School Dist., 27100 Avondale St., Dearborn. Willis R. Harrison Elementary School addn., Hiveley Ave. Plans deposit $50, refundable. Bennett & Straight, Inc., 15624 Michigan Ave., Dearborn, archts.

O., North Royalton—HIGH SCHOOL—BA 12/18—Bd. Educ., 14713 Ridge Rd., high school addn. $400,000-$500,000. Extended date. Fulton, Krinsky & Delamotte, 6014 Euclid Ave., Cleveland, Zone 3, archts. CD 10/23.

O., Cleveland Heights—SCHOOL—BA 12/19—Cleveland Heights Bd. Educ., 1745 Lee Rd., Cleveland, Zone 18, Northwood Elementary School addns., alterations, $415,000. Plans deposit $20. Outcalt Guenther & Assocs., 13124 Shaker Sq., Cleveland, Zone 20, archts. CD 2/29.

O., Cleveland Heights—HIGH SCHOOL—BA 12/20—Cleveland Heights Bd. Educ., 1745 Lee Rd., Cleveland, Zone 18, Roxboro Junior High School addns., alterations, $550,000. Plans deposit $50. Spahn & Barnes, 1950 Lee Rd., Zone 18, archts. CD 2/29.

BUILDINGS—SLC

Ill., Aurora—FACTORY, etc.—Finco, Inc., Airport Rd. N., soon lets contract 1 story, 21,000 sq. ft. factory and office bldg., Hankes St. $150,000. Laz & Mall, 923 N. Lake St., archts.

▲ Mich., Detroit—SCHOOL—Detroit Lutheran High School Development, 5040 Joy St., soon lets contract high school, west side, Greenfield south of Joy St. $1,500,000. Emmerling-Calkins Assn., 112 Madison St., archts. CD 3/29.

▲ Mich., Detroit—SCHOOL—Detroit Lutheran High School Development, 5040 Joy St., soon lets contract high school, east side, Kelly Rd. south of 8 Mile Rd. $1,500,000. Emmerling-Calkins Assn., 112 Madison St., archts. CD 9/20.

HEAVY CONSTRUCTION—LB & CA

M. B. Guran Co., 1075 River St., Akron, O., CA $65,753, Contr. 448, approx. 25,000 lin. ft., 4- to 16-in. C.I. water mains, various streets, appurtenant work, AKRON, O. City, Leo Walter, dir. P. Service, Municipal Bldg., Akron, O. Bids Oct. 23. CD 10/16.

Shullo Constr. Co., 1200 Home St., Akron, O. LB $477,914, est. $461,704. (2 bidders) trunk and lateral sewers, Sewer Dist. 10 and Edgefield Dist. 3, CANTON, O. Comrs. Stark Co., Court House, Canton, O. Bids Nov. 9. CD 10/11.

Curro Constr. Co., Union Commerce Bldg., Cleveland 14, O. CA $596,100, est. $500,000. Trebiskey-Richmond Water Main, Sect. 2, CLEVELAND, O. City, Dpt. P. Utilities, Emil J. Crown, dir., City Hall, Cleveland 14, O. Bids Oct. 26, awarded Nov. 14. CD 11/5, under LB.

▲ ILLINOIS—Illinois State Toll Hy. Comm., 20 N. Wacker Dr., Chicago, Zone 6.

Standard Paving Co., 30 N. La Salle St., Chicago, Ill. and Peter J. Crowley Co., 2701 S. 12 St., Broadview, Ill. LB $2,984,150. Contr. N-3C, 6.18 mi. grading, draining, paving, appurtenances, precast concrete bridges, near Belleville, Boone Co. Bids Nov. 15. CD 10/29.

▲ ILLINOIS—Illinois State Toll Highway Comn., 20 N. Wacker Dr., Chicago, Zone 6.

Public Constructors, Inc., Browning Rd. and Kings Hy., Bellmawr, N. J., and John C. Peterson Constr. Corp., 958 Church St., Baldwin, L. I., N. Y., LB $4,851,422 Contr. N-1A and B combination, grading, drainage, paving, appurtenances, precast concrete bridges for 3.482 mi.; and grading, drainage, paving, appurtenances, precast concrete bridges and steel beam stringer bridges for approx. 3.814 mi., Northern Illinois Toll Highway, Winnebago Co. Bids Nov. 8. CD 10/19.

M. J. Boyle & Co., 2519 N. Elston Ave., Chicago, Ill. LB $436,942. Section 3-B-1, substructure main ramps, storm sewers, bit. paving Calumet Skyway Toll Bridge, Stony Island from E. 76 Pl. to S. Anthony Ave., CHICAGO, ILL. City, City Hall, Chicago, Ill. Bids Nov. 13. CD 10/30.

Great Lakes Dredge & Dock Co., 122 S. Michigan Ave., Chicago, Ill., LB $442,968, reconstr. 31 St. Pier, Burnham Park, CHICAGO, ILL. Chicago Park District, 425 E. 14 St., Chicago, Ill. Bids Nov. 7. CD 10/24.

Geo. Hardin Co., 2130 S. Michigan Ave., Chicago, Ill., LB $477,920. Racine Ave. Pumping Station addn., 38 St. between Racine and Iron Sts., CHICAGO, ILL. Metropolitan Sanitary Dist. of Greater Chicago, 100 E. Erie St., Chicago, Ill. CD 3/19/45.

▲ Heavy Bros. & Co., 47 and E. McCook St., Chicago, Ill., LB $1,079,700. Contr. 19-B, Calumet Intercepting Sewer, Posen, Markham, CHICAGO, ILL. Metropolitan Sanitary Dist. of Greater Chicago, 100 E. Erie St., Chicago, Ill. Bids Nov. 8.

▲ Thomas McQueen Co., 1313 Circle St., Forest Park, Ill. LB $1,271,224. Torrence Ave. grade separation and grading, 141 St. and NYC & B & O R.R. r/ws. Burnham, CHICAGO, ILL. Cook Co., County Bldg., Chicago, Ill. Bids Nov. 9. CD 10/31.

Dan Raymond Constr. Co., 11800 S. Halsted St., Chicago, Ill., LB $148,840. Contr. 2c-Sec. 1-80.82-56-8, Beverly-Calumet Sewer, 97 St., CHICAGO, ILL. City, City Hall, Chicago, Ill. Bids Nov. 7.

Lake Shore Constr., Inc., Northbrook, Ill., LB $148,067 water supply sys., Division St., WESTCHESTER, ILL. Village, Village Hall, Westchester, Ill. Bids Nov. 5. CD 1/31.

MICHIGAN—State Hy. Dpt., Escanaba.

Prosch Constr. Co., Iron River, Mich. LB $196,726, est. $210,000. rein.-con., steel bridge on relocation of M-134 over Pine River 14.8 mi. northwest of Hessel, SS B3 of 49-11-2 C4-R (S 328.6), Mackinac Co. Bids Nov. 14. CD 10/24.

MICHIGAN—State Purch. Director, Lewis Cass Bldg., Lansing,

United States Steel Corp., 525 Wm. Penn. Pl., Pittsburgh, Pa. CA $108,144, furnish, 45,745 ft. 14x14.5 ft. 73 pound steel H bearing piles, Lansing. Bids Sept. 5. CD 1/22/51.

MICHIGAN—State, Purch. Director, 107 Lewis Cass Bldg., Lansing,

Bethlehem Steel Co., Bethlehem, Pa. CA $125,145, est. $160,000. 772,500 lb. structural steel for State Hy. Bridge carry C. & O. R.R. over Norton-Glade Expressway 1/4 mi. west of Muskegon Heights, M X2 of 61-12-13 C1-U (61151), Muskegon Co. Bids Sept. 12. CD 8/31.

▲ MICHIGAN—State Hy. Dpt., Stevens T. Mason Bldg., Lansing,

Denton Constr. Co., 20415 Mack Ave., Grosse Pointe, Mich. CA $1,714,122, est. $2,069,000. c. conc. 4.562 mi. on relocation of US-23, M-47011 C1-RN (SP 51-62), Livingston and Washtenaw Counties. CD 11/1, under LB.

▲ MICHIGAN—State Hy. Dpt., Stevens T. Mason Bldg., Lansing,

Mich.—Cooke Contg. Co., 1116 Penobscot Bldg.,-Detroit, Mich. and Charles J. Rogers, Inc.,-14836 Grand River, Detroit, Mich. CA $1,019,535, est. $1,130,000. city light and power, sewers, 12 in. c. conc. 0.56 mi. John C. Lodge Expressway, BUI 82112 C1-UO (SP 82-128), (UI 07-1 1), Wayne Co. CD 11/14, under LB.

Mich.—Holloway Constr. Co., Livonia, Mich. CA $607,217, est. $690,000. paving prime and double seal 7.219 mi., on M-66, F 08052 C1-R (SP 8-32) (F 434 1), Barry Co.;

Mich.—C. R. Hunt, Cass City, Mich. CA $638,507, est. $750,000. aggregate base course, prime and double seal 9.437 mi. on M-19, SS 32051 C1-R (SP 32-44), SS 74032 C1-R (SP 74-46), etc., Huron and Sanilac Counties. Bids Nov. 8. CD 10/25.

▲ S. Morgan Smith Co., York, Pa. CA $1,765,000. Water Works Park Contr. No. SE-1, constr., installation of pumping units and appurtenances for raw water booster pumping station, DETROIT, MICH. City, Bd. Water Comrs., 735 Randolph St., Detroit 26, Mich. Bids Oct. 30. CD 9/20.

C & M Constr. Co., Elkhart, Ind. LB $412,600. South Westnedge Drain, KALAMAZOO, MICH. Kalamazoo Co., Charles E. Ashley, drain comr., 3640 S. Westnedge Ave., Kalamazoo, Mich. Bids Nov. 10. CD 10/25.

Edward Kanthen Co., Wayne, Mich. CA $89,220. paving parking lot, WAYNE, MICH. Village, Clarence Ladd, clk., 34808 Sims St., Wayne, Mich. Richard P. Gillespie, village engr.

BUILDINGS—LB & CA

B. G. Danis Co., 1518 E. First St., Dayton, O., CA $803,350, 2 story, 120,000 sq. ft., brick, steel PLANT, DAYTON, O. McCall Corp., 2219 McCall St., Dayton, O. CD 10/9.

Stewart Const. Co., 730 Gill Ave., Marion, O., CA $417,815 (6 bidders) general constr., elementary-high SCHOOL, 20-acre site, 1½ mi. west of Dunkirk on

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Rte. 81, DUNKIRK, O. Dunkirk Consolidated Schools, Dunkirk, O. Strong, Strong & Strong, 124 S. West St., Lima, O., archts. Awarded Nov.-9.

Gillmore Olson Co., 1873 E. 55 St., Cleveland 3, O. LB Est. $225,000. 35,000 sq. ft. PLANT addn., NEW PHILADELPHIA, O. Warner & Swasey Co., 5701 Carnegie Ave., Cleveland 3, O. Joseph Geruti, 7113 Euclid Ave., Cleveland 3, O., archt.

George W. Lathrop & Sons, Inc., 1510 Montcalm St., Toledo, O., CA Est. $500,000. 2 story MEDICAL BUILDING, air-conditioned, 100-car parking space, W. Central Ave. and Middlesex Dr., TOLEDO, O. Toledo Physicians & Surgeons Building Corp., c/o Louis Michael, pres., c/o Herman H. Feldstein, archt., Spitzer Bldg., Toledo, O.

▲ **Fred C. Rowley & Sons**, 4732 Calumet Ave., Hammond, Ind., LB $2,271,409. 2 story, bsmt., technical vocational HIGH SCHOOL addn., HAMMOND, IND. School City of Hammond, 935 Hohman Ave. Hammond, Ind. Bids Nov. 13. CD 10/9.

Tudor Constr. Co., Stockland, Ill., CA $427,209. elementary SCHOOL, Woodlawn Park on Congress St., BRADLEY, ILL. Bradley Elementary School Dist. 61, 610 E. Liberty St., Bradley, Ill. CD 11/8, under LB.

▲ **Fred Berglund & Son, Inc.**, 8410 S. South Chicago Ave., Chicago, Ill., LB $1,081,222. COUNTY HOSPITAL and CLINIC addn., Wood and Harrison Sts., CHICAGO, ILL. Bd. Comrs. Cook Co., 519 County Bldg. Chicago, Ill. Bids Nov. 9. CD 11/1.

▲ **Joseph J. Duffy Co.**, 1991 N. Elson St., Chicago, Ill., LB $1,154,633. 2 story, brick, Chrispus Attucks Elementary SCHOOL, Pershing Rd. and State St., CHICAGO, ILL. Bd. Educ., 228 N. La Salle St., Chicago, Ill. Bids Nov. 9. CD 10/19.

▲ **Sumner Sollitt Co.**, 307 N. Michigan Ave., Chicago, Ill., CA $2,187,000, 204-unit HOUSING, Prairie Ave., Courts Exten., South Park Ave. and 26 St. CHICAGO, ILL. Chicago Housing Auth., 608 S. Dearborn St., Chicago, Ill. Bids Oct. 30, CD 11/8, under LB.

▲ **Surface Combustion Co.**, 116 S. Prospect Ave., Park Ridge, Ill., CA, two new batteries of soaking pits to increase tonnage of ingots produced by open hearth furnaces; each pit will hold 100 tons of ingots at a time for STEEL PLANT, GRANITE CITY, ILL. Granite City Steel Co., John M. Marshall, pres., Granite City, Ill.

Arthur G. McKee Co., 2300 Chester Ave., Cleveland, O., CA (a) sintering plant to enrich iron ore before it goes into 2 blast furnaces (Granite City, Ill.).

Ray J. Benoit, Inc., 333 S. Schuyler Ave., Bradley, Ill., CA STORE, WAREHOUSE and SERVICE STATION, Meadowview Shopping Center, KANKAKEE, ILL. Sears Roebuck & Co., 925 S. Homan Ave., Chicago, Ill. Bids Oct. 22. CD 10/1.

▲ **George A. Fuller Co.**, 111 W. Washington St., Chicago, Ill., CA $2,750,000. first of LABORATORY PURPOSE BLDGS., incl. paving, landscaping, etc., 5420 Harrison St., SKOKIE, ILL. Portland Cement Assn., 33 W. Grand Ave., Chicago, Ill. Bids Oct. 20, awarded Nov. 14. CD 9/12.

Northern Builders, Inc., 4008 W. Addison St., Chicago, Ill., CA $500,000. 1 story, 55,000 sq. ft. brick MANUFACTURING and OFFICE BLDG. addn., 7450 McCormick St., SKOKIE, ILL. Felt Products Co., 1508 W. Carroll St., Chicago, Ill. CD 2/19/52.

Slezak Constr. Co., 5300 N. Northwest Hy., Chicago, Ill., LB $442,389. Avoca PRIMARY SCHOOL, west of present school site, WILMETTE, ILL. Avoca Primary School Dist. 37, 29211 Illinois Rd., Wilmette, Ill. Bids Nov. 5. CD 10/18.

▲ **Fluor Corp.**, 48 Otte St., Oshkosh, Wis., CA Total est. $13,500,000. substructure of Pulliam Steam Generating PLANT, GREEN BAY, WIS. Wisconsin Public Service Corp., 600 N. Adams St., Milwaukee, Wis. CD 12/29/55.

Nero Bros. Constr. Co., 1144 W. Mason St., Green Bay, Wis., CA $164,984. FACTORY addn., GREEN BAY, WIS. Bay West Paper Co., 1100 W. Mason St., Green Bay, Wis. Bids Nov. 1. CD 10/15.

▲ **R. C. Mahon Co.**, 6565 E. 8 Mile Rd., Detroit, Mich., CA $8,744,647. structural steel for CONVENTION-EXHIBIT BLDG., DETROIT, MICH. City, City-County Bldg., Detroit, Mich. CD 10/23, under LB.

Thompson-Schmidt Co., 14360 Washburn St., Detroit, Mich. LB $113,900. 1 story, rein.-con., stone REFRIGERATION BLDG., Detroit Institute Fine Arts Prop., DETROIT, MICH. City, K. T. Keller, pres. Arts Comn., City-County Bldg., Detroit, Mich. Bids Oct. 30. CD 10/15.

Walter L. Couse Co., 12740 Lyndon St., Detroit, Mich. CA foundations only for 12 story, L-shaped BANK, Griswold and Fort Sts., DETROIT, MICH. National Bank of Detroit, 660 Woodward Ave., Detroit, Mich. Albert Kahn Associated Architects & Engineers, Inc., 345 New Center Bldg., Detroit, Mich., archt. CD 5/15/55.

August B. Johnson, Inc., Sill Bldg., Flint, Mich. CA $603,865. general constr. Michigan SCHOOL for the Deaf, FLINT, MICH. State, A. N. Langius, dir. State Bldg. Dpt., Lewis Cass Bldg., Lansing, Mich. CD 11/8, under LB.

Ward W. Ross Co., Pontiac, Mich. CA $372,576. HIGH SCHOOL addn., alterations, Orchard Lake and Commerce Rds., WEST BLOOMFIELD, MICH. Bd. Educ., School Dist. No. 5 Fractional, West Bloomfield, Mich. Bids Nov. 1. CD 10/16.

Jeffress-Dyer, Inc., 545 S. Main St., Ann Arbor, Mich. CA $684,000. WOMEN'S DINING HALL, Eastern Michigan College of Education, YPSILANTI, MICH. State, A. N. Langius, dir., State Bldg. Dpt., Lewis Cass Bldg., Lansing, Mich. CD 11-30, under LB.

WEST OF MISSISSIPPI

HEAVY CONSTRUCTION—BA

Iowa, Volga City—BA 12/11—City, City Hall, Flossie Kamzen, town clk., WW plant and distr. sys. $55,000. Extended date. Lechner Eng. Co., Ames, engr. CD 10/17.

† **Wyoming**—BA 12/11—Bureau Reclamation, Dpt. Interior, Bldg. 53, Denver Federal Center, Denver, Colo. power galt and pressure tunnel in Fremont Canyon, 40 mi. S. W. of Casper, Missouri River Basin Proj. CD 5/25/44.

† **N. M., Albuquerque**—UNDERGROUND STEAM DISTRIBUTION SYSTEM—BA About 12/18—U. S. Eng., P. O. Box 1538, modification to underground steam distr. sys., landscaping erosion control and addnl. roads, walks, parking, Sandia Base, ENG-29-005-57-47.

† **Iowa**—BA 12/18—U. S. Eng., Clock Tower Bldg., Rock Island, Ill., remedial work, Lake MacBride State Park Coralville Reservoir project, clearing project, clearing, grubbing, excav. work, Inv. 21-117-57-22.

† **South Dakota**—BA 12/19—U. S. Eng., 1709 Jackson St., Omaha, Neb., levees and channel alterations, Sect. II Big Sioux River, near Sioux Falls, Inv. 25-066-57-49.

† **Wyoming**—BA 12/20—Bureau Reclamation, Dpt. Interior, Bldg. 53, Denver Federal Center, Denver, Colo., Sch. Item 1, one bulkhead gate, Item 2, gate frame, anchor bolts for bulkhead gate for lower outlet-works intake Buffalo Bill Dam, Shoshone Proj.; Spec. DS 4808. L. N. McClellan, asst. comr. and ch. engr. CD 9/26.

† **South Dakota**—BA 1/3—U. S. Eng., 1709 Jackson St., Omaha, Neb., outlet works service gate hoists, Oahe Reservoir Proj., near Pierre, Inv. 25-066-57-48. CD 5/25/44.

† **Wyoming**—BA 1/3—Bureau Reclamation, Dpt. Interior, Bldg. 53, Denver Federal Center, Denver, Colo., Sch. Item 1, power circuit breaker, for Casper Sub-station, Kendrick Proj., Spec. DS 4809. L. N. McClellan, ch. engr. CD 9/12/44.

BUILDINGS—BA

Ark., Little Rock—SCHOOLS—BA 12/6—Pulaski County Special School Dist., Court House, Cloverdale Junior High School, Amboy Elementary School; sewage disposal sys. at Pulaski Training School. Plans deposit $50. Wittenberg, Delony & Davison, Pyramid Life Bldg., archts.-engrs. CD 8/14.

▲ **Okla., Ada**—PLANT—BA 12/17—Ideal Cement Co., Denver National Bank Bldg., Denver, Colo., plant, Est. $12,000,000. Vern E. Alden Co., 33 N. La Salle St., Chicago-2, Ill., engr. CD 2/9.

▲ **Tex., Dallas**—OFFICE, etc.—BA 12/20—Southland Life Insurance Co., Southland Life Bldg., Dallas, (selected list of bidders) bv (1) 225,000 sq. ft. underground garage (2) 175,000 sq. ft. retail and shops (3) 400,050 sq. ft. office bldg.; (4) 42 story office (5) 28 story 600-room hotel. $25,000,000. Welton Becket & Assocs., 5657 Wilshire Blvd., Los Angeles, Calif., engrs. Mark Lemmon, Thomas Bldg., Dallas, Tex., and Wilton Becket & Assocs., 5657 Wilshire Blvd., Los Angeles, Calif., archts. CD 11/7.

▲ **Tex., Bishop**—PLANT EXPANSION, etc.—Bids Asked—Celanese Corp. of America, 180 Madison Ave., New York, N. Y., polyol chemical production plant expansion; $6,500,000; earthwork, grading in building area, $45,000; chemical storage expansion $200,000. CD 11/1.

BUILDINGS—SLC

Minn., St. Paul—WAREHOUSE OFFICE—Trussbilt Div. of Siems Bros., Inc., 2575 Como Ave., soon lets contract 1 story, 40x300 ft. warehouse with 2 story, 30x40 ft. office, $93,000. Ellerbe & Co., E. 505 First National Bank Bldg., archts.

HEAVY CONSTRUCTION—LB & CA

▲ **MINNESOTA**—State Hy. Dpt. 1246 University Ave., St. Paul.

Industrial Constr. Co., 3050 Fourth Ave. South, Minneapolis, Minn. CA $2,857,682. Bridge No. 5983 over Minnesota River, Hennepin Co. CD 10/3, under LB.

† **Cosmo Constr. Co.**, 1710 Broadway, Oklahoma City, Okla. CA $779,548, est. $1,032,770. embankment, channel excav., access roads on Pomme de Terre River, near Hermitage, Hickory Co., ENG-57-25; MISSOURI U. S. Eng., 1800 Federal Office Bldg., 911 Walnut St., Kansas City 6, Mo. Bids Nov. 8, awarded Nov. 13. CD 11/19, under LB.

▲† **Steenberg Constr. Co.**, 1371 Marshall Ave., St. Paul, Minn., LB $3,527,576 (4 bidders) constr. buildings, storage facilities, incl. four 800-man dormitories, one dining hall, etc. MINOT Air Force Base, Inv. ENG-25-066-57-3, Minot, N. D. U. S. Eng., 1709 Jackson St., Omaha 2, Neb. Bids Nov. 14. CD 11/5.

† **U. S. Eng.**, 1709 Jackson St., Omaha, Neb., cancelled bids to have been opened Nov. 14, hydraulic turbines for Oahe Reservoir Proj., near Pierre, Inv. 25-066-57-29, SOUTH DAKOTA. CD 9/19.

† **Alexander Constr. Co.**, 4641 Hiawatha Ave., Minneapolis, Minn., LB $513,052 (11 bidders) east access road, Oahe Reservoir Proj., near Pierre, Inv. 25-066-57-40, SOUTH DAKOTA. U. S. Eng., 1709 Jackson St., Omaha, Neb. Bids Nov. 13. CD 10/16.

▲† **Pierre Constr. Co.**, Pierre, S. D., LB $1,887,777 (3 bidders) outlet works, Stage V, control superstructure, Oahe Reservoir Proj., near Pierre, Inv. 25-066-57-30, SOUTH DAKOTA. U. S. Eng., 1709 Jackson St., Omaha, Neb. Bids Nov. 15. CD 11/8.

KANSAS—State Hy. Comn., Salina.
Ralph W. Forkner, Clay Center, Kan. CA $74,431 (5 bidders) Bridge 15W-101-6.6 Sta. 172 plus 36, 65 ft., two 91 ft., 65 ft. rein.-con. girder, Proj. 15W-101 F 045-2 (5) Part I, Washington Co. Bids Nov. 1. CD 10/19, under Streets and Roads.

KANSAS—State Hy. Comn., Norton, Kan.—**Harry Henery, Inc.**, Ottawa, Kan. CA $352,744. (7 bidders) grading 10.122 mi. Proj. 24-33 F 078-1 (21), Graham Co.;
Kan.—**Caylor Brothers Constr. Co.**, Ottawa, Kan. CA $88,020 (7 bidders) grading 8.842 mi. Proj. 83-97 F 017-3 (1), Thomas Co. Bids Nov. 8. CD 10/25.

KANSAS—State Hy. Comn., Salina, Kan.—**Western Engineering Co.**, Harlan, Iowa. CA $219,417 (10 bidders) grading 9.753 mi. Proj. 15W-101 S 523 (3), Washington Co.;
Kan.—**T. F. Marbut**, Emporia, Kan. CA $120,208. (10 bidders) grading 3.388 mi. Proj. 15W-101 F 045-2 (5) Part I and II, Washington Co. Bids Nov. 1. CD 10/19.

Forsgren Bros., Box 368, Fort Smith, Ark. CA $561,299. water lines, ARDMORE, OKLA. City, City Hall, Ardmore, Okla. Bids Oct. 25. CD 11/4, under LB.

▲† **Peter Kiewit Sons Co.**, Box 3008 Southwest Station, Wichita 17, Kan., LB $5,165,759 (15 bidders) primary runway, Clinton Sherman Air Force Base, CLINTON, OKLA. Bureau Yards & Docks, Dpt. Navy, 8th Naval Dist., New Orleans (Algiers), La. Bids Nov. 8.

TEXAS-LOUISIANA—Comrs. Court Jefferson Co., Court House, Beaumont, Tex. and Police Jury Cameron Parish, Cameron, La.—
Louisiana Paving Co., Inc., P. O. Box 8, Kenner, La. LB $870,221. Cont. A, Sabine Lake approach spans and center pier; Con. B, Sabine Lake swing span; Cont. C, hard surf. of hydraulic fill, Jefferson Co., Tex., Cameron Parish, La. Bids Nov. 12. CD 11/7.

▲ **TEXAS**—State Hy. Dpt., Austin,
Tex.—**Austin Contr. Co.**, P. O. Box 1590, Dallas, Tex. LB $171,126, base and surf. 7.663 mi. Hy. FM 909. Proj. C 189-3-12, Red River Co.;
Tex.—**Ballinger Constr. Co.**, P. O. Box 943, San Benito, Tex., LB $498,950, flexible base, two course surf. tr. 9.465 mi. Hy. FM 521. Proj. S 394 (5), Cameron Co.;
Tex.—**C. C. Booth**, P. O. Box 508, Stephenville, Tex., LB $166,827, grading, structures, base, surf. 9.71 mi. Hy. FM 2152 and 204, Proj. S 770 (2), Erath, Hood and Somervell Counties;
Tex.—**J. O. Boswell**, 311 Paris Ave., Lubbock, Tex., LB $420,128, flexible base, b. cont. 4.699 mi., Hy. US 84, Proj. F 502 (14), Lubbock Co.;
Tex.—**John F. Buckner & Sons**, P. O. Box 76, Cleburne, Tex., LB $95,944, grading, structures, base, surf. 5.826 mi. Hy. FM 2331, Proj. R 2213-2-1, Johnson Co.;
Tex.—**Callan Constr. Co.**, P. O. Box 3146, Waco, Tex., LB $448,542, grading, structures, base, surf. 16.924 mi. Hy. FM 56, Proj. S 2117 (1), Bosque Co.;
Tex.—**Gilvin-Terrill, Inc.**, P. O. Box 2268, Amarillo, Tex., LB $103,651, foundation course, hot mix b. conc. 2.053 mi. Hy. US 287, Proj. F 438 (28), Hall Co.;
Tex.—**E. W. Hable & Sons**, P. O. Drawer 650, Corsicana, Tex., LB $121,365, grading, structures, base, surf. 8.149 mi. Hy. FM 2274, Proj. S 2141 (1), Cherokee Co.;
Tex.—**M & N Constr. Co., Inc.**, P.O. Box 12306, Houston, Tex. LB $1,448,926, flexible base, b. conc. 8.739 mi. Hy. SH 61 and 73, Proj. F 1052 (35), Chambers Co.;
Tex.—**W. O. Pelphrey**, 1412 Electric Bldg., Fort Worth, Tex. LB $211,722, flexible base, two course surf. tr. 3.976 mi. Hy. S. 171, Proj. C 365-3-10, Johnson Co.;
Tex.—**M. E. Ruby**, P.O. Box 96, San Marcos, Tex. and **H & H Constr. Co.**, 801 Brown Bldg., Austin, Tex. LB $206,926, flexible base, one course surf. tr. 1.522 mi. Hy. US 181, Proj. F 266 (7) and F FG 266 (8), Karnes Co.; LB $97,501, grading, structures, base, surf. 5.733 mi. Hy. FM 1937, Proj. S 519 (1), Bexar Co.;
Tex.—**Schwope Bros.**, 6633 W. Commerce St., San Antonio, Tex., LB $185,498, grading, structures, base, surf. 11.526 mi. Hy. RM 2244, Proj. S 2124 (1), Travis Co.; LB $255,413, widen gra., structures, base, surf. 5.523 mi. Hy. US 87, Proj. F 440 (19) and F 843 (6), Gonzales and DeWitt Counties;
Tex.—**A. L. Sheppard**, P.O. Box 1871, Vernon, Tex. LB $123,598, grading, structures, base, surf. 7.354 mi. Hy. FM 678, Proj. S 1148 (2), Cooke Co.;
Tex.—**Southwestern Contr. Co.**, 1219 Cotton Exchange Bldg., Dallas, Tex. LB $117,577, grading, structures, base, surf. 7.133 mi. Hy. FM 2311, Proj. R 2174-1-1, McLennan Co.;
Tex.—**Henry L. Stafford**, P.O. Box 1047, Lubbock, Tex. LB $945,157, flexible base, b. conc. 16.229 mi. Hy. US 87, Proj. F 60 (11), Randall Co.; LB $343,917, flexible base, b. conc. 9.296 mi. Hy. US 290, Proj. F 240 (4), Reeves Co.;
Tex.—**H. B. Zachry Co.**, P.O. Box 10188, San Antonio, Tex., LB $93,021, grading, structures, base, surf. 7.833 mi. Hy. FM 2102 and 99, Proj. R2234-1-1, C 348-6-9, Karnes Co. Bids Nov. 15. CD 10-25, 10/29.

TEXAS—State Hy. Dpt., Austin,
Tex.—**Austin Bridge Co.**, P.O. Box 1590, Dallas 1, Tex. LB $419,960, 1.144 mi. Colorado River Bridge and approaches, grading, structure, base, hot mix b. conc. pavement Hy. US 67, Proj. F 570 (2), Runnels Co.;
Tex.—**Dodds & Wedegartner, Inc.**, P.O. Box 1950, San Benito, Tex. LB $298,202, 0.227 mi. Arroyo Colorado Frontage bridge and approaches, Hy. US 83, Proj. F 93 (5), Cameron Co.;
Tex.—**Ben Sira & Co.**, 9620 John West Rd., Dallas, Tex. LB $88,652, 0.083 mi. bridges, Paulucy River

Bridge and Pony Creek Bridge, Hy. FM 204, Proj. S 770 (4) Hood Co.;

Tex.—**Luther A. Turner**, P.O. Box 542, Buda, Tex. LB $79,969, 2.189 mi. San Marcos River Bridges and approaches Hy. FM 964 and 1979, Proj. S 1388 (3) and S 2139 (1), Caldwell and Guadalupe Counties. Bids Nov. 14. CD 10/25.

▲ **TEXAS**—State Hy. Dpt., Austin,

Tex.—**Austin Bridge Co.**, P.O. Box 1590, Dallas, Tex. LB $129,771, flexible base, two course surf. tr. 1.086 mi. Hy. State 34, Proj. S 1905 (3), Kaufman Co.; LB $1,228,620, c. conc. 0.728 mi. Hy. US 77, Proj. I 22 (13), Dallas Co.;

Tex.—**Austin Bridge Co. & Austin Road Co.**, P.O. Box 1590, Dallas, Tex. LB $2,478,705, c. conc. pavement and 5 highway grade separation structures 8.151 mi. Hy. SH 73, Proj. I 1052 (34), Harris Co.;

Tex.—**C. C. Booth**, P.O. Box 508, Stephenville, Tex. LB $96,141, grading, structures, base, surf. 7.574 mi. Hy. FM 2318 and 1992, Proj. R 779-2-1, R 422-2-3 and R 1852-3-1, Bosque Co.;

Tex.—**B. G. Brown & Co., J. A. Pruitt and T. M. Brown & Sons, Inc.**, P.O. Box 1919, Abilene, Tex. LB $511,440, flexible base, b. conc. 13.336 mi. Hy. SH 199, Proj. F 454 (3), F 454 (4) and F 1041 (5), Archer and Young Counties; LB $140,555, grading, structures, base, surf. 6.559 mi. Hy. FM 1170, Proj. R 2033-3-2, Nolan Co.;

Tex.—**R. B. Butler, Inc.**, P.O. Box 471, Bryan, Tex. LB $188,141, grading, structures, base, surf. 4.088 mi. Hy. FM 1159 and 862, Proj. R 773-2-3 and R 1705-1-3, Red River Co.;

Tex.—**Ivan Dement**, P.O. Box 1787, Amarillo, Tex. LB $974,329, c. conc. 2.058 mi. Hy. US 60 and 87, Proj. F 60 (8), Randall Co.;

Tex.—**Fred Hall & Son**, P.O. Box 488, Valley Mills, Tex. LB $118,893, grading, structures, base, surf. 7.622 mi. Hy. FM 2113, Proj. R 2060-1-2, McLennan Co.; LB $569,345, add. base and hot mix b. conc. 10.316 mi. Hy. SH 31, Proj. F 605 (21) and F 124 (6), McLennan and Hill Counties;

Tex.—**E. E. Hood & Sons**, P.O. Box 6097, San Antonio, Tex. LB $320,939, base, two course surf. tr. 12.943 mi. Hy. FM 394, Proj. S 403 (3), Frio Co.;

Tex.—**Ernest L. Mays**, 3430 Minglewood St., Beaumont, Tex. LB $207,027, grading, structures, base, surf. 11.459 mi. Hy. FM 1985, Proj. S 2143 (1), Chambers Co.;

Tex.—**Perry Constr. Co. & J. W. Perry**, 501 Insurance Bldg., San Antonio, Tex. LB $92,238, grading, structures, base, surf. 6.492 mi. Hy. FM 2315, Proj. R 2200-1-1, McCulloch Co.;

Tex.—**Reynolds & Huff**, P. O. Box 88, Tyler, Tex.; LB $279,135, flexible base, hot mix b. conc. 1.941 mi. Hy. US 80, Proj. F 21 (8), Gregg Co.;

Tex.—**Henry L. Stafford**, P. O. Box 1047, Lubbock, Tex. LB $185,119, flexible base, hot mix b. conc. 5.59 mi. Hy. US 84, Proj. C 53-7-13, Scurry Co. Bids Nov. 14. CD 10/25 and 10/29.

TEXAS—State Hy. Dpt., Austin,

cancelled bids to have been opened Nov. 15, 6.835 mi. Hy. FM 2369, Control No. R 2175-1-1, Uvalde Co. CD 10/25.

City, City Hall, Corpus Christi, Tex. Own Forces. $85,000, street paving reconstr., CORPUS CHRISTI, TEX. CD 10/15.

City, City Hall, Corpus Christi, Tex. Own Forces. $75,000, sanitry sewer line relocation. $100,000 storm sewer open drainage, CORPUS CHRISTI, TEX. CD 10/15.

City, City Hall, Dallas, Tex. Own Forces. $200,000 approx. 5 mi. asphalt covering of old street car tracks, DALLAS, TEX. CD 12/31/56.

Austin Paving Co., 1900 Singleton Blvd., Dallas, Tex. LB $147,459, est. $137,000, street impvs., surf., Waweenoc St., etc., DALLAS, TEX. City Hall, Dallas, Tex. J. G. Rollins, c/o owner, Ch. P. Wks. Engr. Bids Nov. 9.

† **Texas Bitulithic Co.**, P.O. Box 10365, Dallas, Tex. LB $237,278, est. $230,342, constr. taxiway, primary runway access, Carswell Air Force Base, ENG-41-443-57-6, FORT WORTH, TEX. U. S. Eng., 100 W. Vickery Blvd., Fort Worth, Tex. Bids Nov. 13. CD 11/7.

City, City Hall, Garland, Tex. Own Forces. $75,000, street impvs., grading, surf., GARLAND, TEX. CD 10/18.

City, City Hall, Garland, Tex. Own Forces. $75,000, storm sewers, GARLAND, TEX. CD 11/16.

Lufkin Constr. Co., Box 717, Lufkin, Tex., CA $59,919, Alt. 1, of Contr. 111A-6, water pump station revisions, LUFKIN, TEX. City, Lufkin, Tex. Freese, Nichols & Turner, 2111 C & I Life Bldg., Houston, Tex., engrs. Bids Nov. 6. CD 9/23/55.

Wilks, Dake & Steed, Box 573, Tyler, Tex. LB $288,310, water mains, LUFKIN, TEX. City, Lufkin, Tex. Bids Nov. 6. CD 9/23/55.

City, City Hall, Odessa, Tex. Own Forces. $90,000, storm sewers, ODESSA, TEX. CD 10/24.

City, City Hall, Odessa, Tex. Own Forces. $75,000, street repairing, drainage, ODESSA, TEX. CD 10/24.

City, City Hall, Odessa, Tex. Own Forces. $75,000, water sys. rehabilitation work, ODESSA, TEX.

Quincy Lee Constr. Co., 211 Olmos Dr. W., San Antonio, Tex. Own Forces. $77,000, sanitary sewers; $75,000, storm sewers, SAN ANTONIO, TEX.

Quincy Lee Constr. Co., 211 Olmos Dr. W., San Antonio, Tex. Own Forces. $45,000, water lines, facilities, SAN ANTONIO, TEX.

Quincy Lee Constr. Co., 211 Olmos Dr. W., San Antonio, Tex. Own Forces. $77,500, asphalt paved streets, curb and gutter, SAN ANTONIO, TEX.

City Water Bd., 106 W. Market St., San Antonio, Tex. Purchase and Hire, $425,000, renovation of existing Market St. pumping station; $345,000, water pump station, 34 St.; $100,000, some misc. c.i. water lines repairing throughout city, SAN ANTONIO, TEX. Grand total $870,000. CD 6/28.

▲ **Colorado Mountain States Constr. Co.**, 9200 W. Colfax St., Denver, Colo., LB $3,430,404, est. $3,000,000. Williams Fork Dam at Granby, DENVER, COLO. Bd. Water Comrs., City & County Bldg., Denver, Colo. Bids Nov. 16. CD 10/8.

BUILDINGS—LB & CA

G. I. Johnson & Son Co., 848 W. 79 St., Minneapolis, Minn. CA $741,000, general constr. 1st unit, ADMINISTRATION and HOSPITAL BLDG. for Brainerd State School and Hospital, BRAINERD, MINN. State, Dpt. Admin., 19 State Capitol, St. Paul, Minn. CD 11/8, under LB.

▲ **C. H. Peterson Constr. Co.**, National Bldg., Minneapolis, Minn. LB $1,258,950, (3 bidders) two 1 story elementary SCHOOLS, ST. LOUIS PARK, MINN. Bd. Educ., A. Hobart, clk., St. Louis Park, Minn. Bids Nov. 15. CD 10/24.

Graver Tank & Mfg. Co., 332 S. Michigan Ave., Chicago, Ill., CA $100,000, erecting three 750,000 proof gallons each TANKS for storage of neutral grain spirits 11.3 acres site, MUSCATINE, IOWA. Heublein, Inc., 330 N. Park Ave., Hartford 1, Conn. CD 10/15.

Cooper Constr. Co., 110 S. 46 St., Omaha, Neb., CA $833,201, CONSTRUCTION CENTER, 63 and Oak Sts., OMAHA, NEB. Metropolitan Utilities Dist., 18 and Harney Sts., Omaha, Neb. Bids Oct. 16. CD 10/22, under LB.

† **Dickmann-Pickens-Bond Constr. Co.**, 3712 W. Okmulgee Ave., Muskogee, Okla., CA $6,500,000, general contract tantalum PLANT, near MUSKOGEE, OKLA. Fansteel Metallurgical Corp., 3304 N. Harlem Ave., Chicago, Ill. A. Epstein & Sons, Inc., 2011 W. Pershing St., Chicago, Ill., archt.-engr. CD 9/12.

▲ **Tulsa Rig, Reel & Mfg. Co.**, Philtower Bldg., Tulsa, Okla. CA $1,436,825, James Monroe JUNIOR HIGH SCHOOL, TULSA, OKLA. Bd. Educ., 410 S. Cincinnati St., Tulsa, Okla. Bids Oct. 30. CD 11/13, under LB.

▲ **Butcher & Sweeney**, 806½ Taylor St., Fort Worth, Tex. CA $1,185,085, est. $1,225,000, two DORMITORIES and CAFETERIA, FORT WORTH, TEX. Texas Wesleyan College, TWC Campus, Fort Worth, Tex. Bids Nov. 14. CD 11/16, under LB.

Cain & Cain, 4001 S. Expressway, Fort Worth, Tex. LB $592,544, constr. DIST. OFFICE BLDG., ENGINEERING OFFICE BLDG. and LABORATORY, Wellview Ave. and Southwest Loop (217), FORT WORTH, TEX. State Hy. Dpt., Austin, Tex. Bids Nov. 15. CD 10/24.

General Dynamics Corp., Convair Div., Grants Lane, Fort Worth, Tex., cancelled bids to have been opened Nov. 16, CENTRAL BOMB P.O.D. FACILITIES, FORT WORTH, TEX. Est. $140,000. Will re-advertise. CD 11/9.

Gulf Printing Co., West Dallas St., Houston, Tex. cancelled bids to have been opened Nov. 13, constr. new PRINTING PLANT UNIT and 2 story addn. to existing PLANT, 82,500 sq. ft. HOUSTON, TEX. $400,000. CD 11/2.

National Real Estate Development Corp., c/o Ben H. Carpenter, Southland Life Bldg., Dallas, Tex. Own Forces. $345,000, 25 DWELLINGS; $379,500, 33 DWELLINGS, IRVING, TEX. CD 10/17.

FAR WEST

HEAVY CONSTRUCTION—BA

† **Washington**—STORAGE FACILITIES—BA 12/13—Bonneville Power Admin., 1001 N. E. Lloyd Blvd., Portland, Ore.; oil storage facilities, Moxee substation, Yakima Co., Inv. 8215. Plans deposit $25. CD 2/5/51.

† **Wash., Moses Lake**—STORAGE TANK—BA 12/18—U. S. Eng., City-County Airport, Walla Walla, Wash. 250,000 gal. elevated steel water storage tank, Larson Air Force Base, Inv. 57-13. CD 8/27.

BUILDINGS—BA

▲ **Calif., Sacramento**—LIFE, SCIENCE, etc.—BA 12/18—Calif. Div. Architecture, 1120 N. St., 23,400 sq. ft. life-science bldg., general classroom at Sacramento State College. $1,220,300. Plans deposit $50. CD 6/3/55.

BUILDINGS—SLC

Calif., Los Angeles—HOSPITAL—Morningside Hospital Center, Western and Manchester Sts., soon lets contract, 60-bed hospital Western and Manchester Sts. $150,000. Nielsen & Moffatt, Crenshaw Blvd., archts. CD 4/26, under Hollypark Hospital, owner.

HEAVY CONSTRUCTION—LB & CA

ARIZONA—State Hy. Dpt., 17 Ave. and Jackson St., Phoenix,

rejected bids Oct. 25, grading, draining, sub-grade seal, select material aggreg. base, bit. surf., 3-span rein.-con. continuous slab bridge 1.1 mi. Springerville-Round Valley Airport Highway, Apache Co. LB $86,300. Will re-advertise. CD 10/17.

† **L and S Constr. Co.**, Box 1585, Moses Lake, Wash. LB $165,539, est. $161,779, (4 bidders) Dental Clinic, Larson Air Force Base, Inv. 57-9, MOSES LAKE, WASH. U. S. Eng., City-County Airport, Walla Walla, Wash. Bids Nov. 13. CD 10/10.

† **OREGON**—Bureau P. Rds., Dpt. Commerce, Morgan Bldg., Portland,

Ore.—**Timber Access Industries**, Corvallis, Ore., LB $202,359 (6 bidders) grade 2.174 mi. Boulder Creek Rd., 145 ft. bridge, Linn Co.;

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Ore.—**Cedar Creek Logging Co.**, Sweet Home, Ore., LB $206,425 (6 bidders) grade 3.66 mi. Yellowbottom Creek Rd., Linn Co. Bids Nov. 9.

Warren Northwest, Inc., Box 5072, Portland, Ore., LB $554,204 (4 bidders) parking area and apron paving, Portland International Airport, PORTLAND, ORE. Port of Portland, Swan Island, Portland, Ore. Bids Nov. 8.

▲ **CALIFORNIA**—State Div. Hys., 120 S. Spring St., Los Angeles, —

Calif.—**Ukropina, Polich & Krall**, P. O. Box 105, San Gabriel, Calif., LB $2,423,496, est. $2,805,000 (6 bidders) grading, surf. 1.9 mi. 6-lane divided freeway, rein.-con. pumping plant, 2 retaining walls and 2 bridges, Los Angeles Co.;

Calif.—**E. L. Yeager**, P. O. Box 87, Riverside, Calif., LB $1,464,735, est. $1,600,000 (10 bidders) grading, surf. 8.5 mi. U.S. 66, incl. 8 bridges, San Bernardino Co.;

Calif.—**Winston Brothers**, 1532 S. California St., Monrovia, Calif., LB $3,361,259, est. $3,500,000 (5 bidders) c. conc. paving, plant mix 5.7 mi., 7 bridges, 2 pumping plants for 4-lane divided highway, Santa Ana Freeway, Orange Co. Bids Nov. 15. CD 10/18.

† **Basalt Rock Co.**, 8 and River Sts., Napa, Calif., LB $111,070, est. $117,045 (2 bidders) stone protection along Stockton Deep water channel, CIVENG-04-167-57-68, CALIFORNIA. U. S. Eng., 1209 8 St., Sacramento, Calif. Bids Nov. 15. CD 10/26.

Glanbille Plumbing Co., 3231 Bell Terrace, Bakersfield, Calif., LB $106,361 (5 bidders) 8,300 lin. ft. 12- and 15-in. pipe, Trunk "F" Sewer, Section 3, and Trunk "D" Sewer, Lancaster, LOS ANGELES, CALIF. Los Angeles County Sanitation Dist. No. 14, 2020 Beverly Blvd., Los Angeles, Calif. Bids Nov. 13. CD 10/17.

John Strona Co., 3613 Philadelphia St., Pomona, Calif., LB $954,286 (11 bidders) bridge and imprvs. Slauson Ave., LOS ANGELES, CALIF. Bd. Supervs., Los Angeles Co., Hall of Records, Los Angeles, Calif. Bids Nov. 13. CD 10/25.

▲ **Fred J. Early Jr. Co.**, 369 Pine St., San Francisco, Calif., LB $1,111,296 (2 bidders) pumping plant Walnut Creek, OAKLAND, CALIF. East Bay Municipality Dist., 2130 Adeline St., Oakland, Calif. CD 11/13/46.

Ransome Co., 4030 Hollis St., Emeryville, Calif., LB $260,627 (4 bidders) street imprvs. West St. between San Pablo and Grove Sts. and others, OAKLAND, CALIF. City, City Hall, Oakland, Calif.

BUILDINGS—LB & CA

▲ **S. Jon Kreedman**, 247 S. Beverly Dr., Beverly Hills, Calif., CA $1,400,000. 4 story 65,000 sq. ft. masonry OFFICE, 9350 Wilshire Blvd., BEVERLY HILLS, CALIF. Kreebert Investment Co., 247 S. Beverly Dr., Beverly Hills, Calif.

▲ **Valerie Park Development**, 8440 Melrose Pl., Los Angeles 46, Calif., CA $1,282,000. 97 frame, stucco DWELLINGS, Kingside, Edna Pl., Coolfield, Fredkin and Queenside Sts., COVINA, CALIF. NDL Builders, 8440 Melrose Pl., Los Angeles 46, Calif.

Leonard Constr. Co., 37 S. Wabash St., Chicago, Ill., CA $125,000. sulphuric acid PLANT addn., 20720 S. Wilmington St., DOMINQUEZ, CALIF. Stauffer Chemical Co., P. O. Box 111, Compton, Calif.

▲ **Tietz Constr. Co.**, 11611 Brookhurst St., Garden Grove, Calif., CA $1,302,000. 84 DWELLINGS, Avenue J, 12 St. East, 11 St. East, LANCASTER, CALIF. Manhattan Terrace No. 2, Inc., 11611 Brookhurst St., Garden Grove, Calif.

Moss Building Co., 227 S. Robertson Blvd., Los Angeles, Calif., CA $756,000. 54 DWELLINGS, Valiant and Holgin Sts., LANCASTER, CALIF. Vista Park, 227 S. Robertson Blvd., Los Angeles, Calif. Citris Chambers, 28 Fair Oaks St., Pasadena, Calif., archt.

Ray Wilson Co., 4660 Colorado Blvd., Los Angeles, Calif., CA $371,452, altering 2nd and 3rd floors HALL OF JUSTICE, Proj. 70-56, LOS ANGELES, CALIF. Los Angeles Co., Hall of Records, Los Angeles, Calif. Bids Oct. 24, awarded Nov. 7.

A. C. King Inc., 1120 Parallel Ave., Fresno, Calif., Owner Builds, $399,156. 37 concrete DWELLINGS, Palm Springs Country Club Estates, Tract No. 9, PALM SPRINGS, CALIF.

United Constr. Co., 3839 Riverside Blvd., Sacramento, Calif., CA $482,550 (4 bidders) multi-purpose rooms at 5 city SCHOOLS, SACRAMENTO, CALIF. Sacramento United School Dist., 1619 N St., Sacramento, Calif. Bids Nov. 13. CD 2/18/55.

▲ **Rothschild, Raffin & Weirick**, 274 Brannan St., San Francisco, Calif., CA $1,724,500. 1, 2 and 3 story Silver Ave. JUNIOR HIGH SCHOOL, SAN FRANCISCO, CALIF. Dpt. P. Wks., City Hall, San Francisco, Calif. Bids Oct. 31. CD 10/19.

† **Cal Constr. Co.**, San Bernardino, Calif., CA $503,400 Item No. 2, enlisted men's CLUB, and 1 story N.C.O. CLUB, Spec. 4193/56, TWENTYNINE PALMS, CALIF. Eleventh Naval Dist., 1220 Pacific Hy. San Diego, Calif. Bids Oct. 24. CD 10/1.

Kemp Brothers, 8715 Metler St., Los Angeles, Calif., LB $551,200 (8 bidders) Sunnyside SCHOOL, South Whittier, WHITTIER, CALIF. South Whittier School Dist., 13243 E. Los Nietos Rd., Whittier, Calif. Bids Nov. 8. CD 10/25.

CANADA

HEAVY CONSTRUCTION—LB & CA

ALBERTA—Alberta Govt., Parliament Bldgs., Edmonton,

Square M Constr., Ltd., 10325 61 Ave., Edmonton, Alta., CA $110,392, prestressed concrete girder bridge over Kelly River on Hy. No. 5, 5 mi. west of Mountain View. Awarded Nov. 2.

Everall Eng. Co. Ltd., 9642 Jasper Ave., Edmonton, Alta., LB $120,917 (5 bidders) roads, walks, parking areas, R.C.A.F. Base, COLD LAKE, ALTA. Defence Constr. (1951) Ltd., 56 Lyon St., Ottawa, Ont.

BRITISH COLUMBIA—Dpt. P. Wks., Hunter Bldg., Ottawa, Ont.,

Poole Constr. Co., Ltd., 10503 109 St., Edmonton, Alta., LB $229,770, 3-span bridge across Ottertail River, Yoho National Park, Mile 12.9, Trans-Canada Highway, Field. Bids Oct. 24. CD 10/10.

▲ **BRITISH COLUMBIA**—B. C. Govt., Parliament Bldgs., Victoria,

Dominion Bridge Co., Ltd., 2450 Boundary Rd., Burnaby, B. C., LB $12,399,112, steel bridge superstructure, main and approach spans, with rein.-con. deck, Second Narrows, Vancouver. CD 10/14/55.

▲ **BRITISH COLUMBIA**—B. C. Govt., Parliament Bldgs., Victoria,

Upper Fraser Valley Constr. Co., Ltd. & A. C. McEachern, Ltd., Chilliwack, B. C., LB $2,429,254 (5 bidders) Proj. 807, 10.31 mi. Veeder-River-Chilliwack Section, Trans-Canada Road, Chilliwack Area. Bids Nov. 6. CD 10/31.

BRITISH COLUMBIA—B. C. Govt., Parliament Bldgs., Victoria,

General Constr. Co., Ltd., Granville Island, Vancouver, B. C., CA $523,745. grading from Mile 250 to Mile 263 on Fort St. John Line, Pacific Great Eastern Ry. Fort St. John area. CD 10/31, under LB.

▲ **Marwell Constr. Co., Ltd.**, 1500 W. Georgia St., Vancouver, B. C., CA $1,400,000. 323 ft. precast concrete hangar, International Airport, VANCOUVER, B. C. Canadian Pacific Airlines, Sea Island, Vancouver, B. C. Otto Safir, 525 Seymour St., Vancouver, B. C., engr. Awarded Nov. 2.

ONTARIO—Dpt. Hys., Parliament Bldgs., Toronto,

K. J. Beamish Constr. Co., Ltd., Box 189, Thornhill, Ont., LB $160,038 (6 bidders) Contr. 56-180, structure, grading, culverts, gran. base, hot mix paving 1.25 mi. Hy. 2, Grafton. Bids Nov. 14. CD 11/2.

ONTARIO—Dpt. Hys., Parliament Bldgs., Toronto,

Peel Constr. Co., Ltd., Brampton, Ont., LB $557,520 (8 bidders) Contract 56-178, grading, culverts, gran. base, hot mix paving 7.9 mi. Hy. 17, Wanapitei. Bids Nov. 14. CD 11/2.

▲ **McNamara Constr. Co., Ltd.**, 42 Industrial St., Leaside, Toronto, Ont., LB $3,574,000 (3 bidders) dredging Cornwall Island, North Channel near Cornwall International Rapids Section of St. Lawrence Seaway, ONTARIO. St. Lawrence Seaway Auth., No. 2 Temporary Bldg., Ottawa, Ont. Bids Nov. 13. CD 10/19.

▲ **McNamara Constr. Co., Ltd.**, 42 Industrial St., Leaside, Toronto, Ont., LB $1,123,160 (3 biddees) substructure of high level suspension bridge, Cornwall Island, South Channel in International Rapids Section of Seaway, Cornwall, ONTARIO and NEW YORK. St. Lawrence Seaway Auth., No. 2 Temporary Bldg., Ottawa, Ont. Bids Nov. 13. CD 10/16.

Greenfield Sand & Stone Ltd., Box 184, Ayr, Ont., CA, $82,855 (4 bidders) sewer and related services, various streets, in Westminster Twp., BYRON, ONT. Westminster Twp., Byron, Ont. W. M. Veitch, R.R. 4, London, Ont., engr. Awarded Nov. 7.

Simcoe Dredge & Dock Co., 67 Yonge St., Toronto, Ont. CA $55,225. dredging LAKE SIMCOE, ONT. Dpt. P. Wks., Hunter Bldg., Ottawa, Ont. Bids Aug. 22, awarded Nov. 5. CD 8/9.

Pentagon Constr. Co., Ltd., 5005 Namur St., Montreal, Que., CA, $300,000. railway yard development, foundations and drainage for proposed diesel shop, incl. grading, excav., backfill, concrete, rein.-con., bending and placing reinforcing rods, MONTREAL, QUE. Canadian National Rys., A. F. Johnston, ch. engr., 359 McGill St., Montreal, Que. Bids Oct. 18, awarded Nov. 6. CD 10/19.

B. H. Metal Industries Co., Ltd., 4650 Notre Dame St. E., Montreal, Que., LB $135,940 (3 bidders) supplying, erecting structural steel for two standard O. R. barrack blocks, R.C.A.F. Station, ST. JOHNS, QUE. Defence Constr. (1951), Ltd., 56 Lyon St., Ottawa, Ont.

BUILDINGS—LB & CA

▲ **Bird Constr. Co., Ltd.**, 1427 19 Ave. W., Calgary, Alta., CA, $1,422,741 (5 bidders) HOSPITAL addns., alterations, CALGARY, ALTA. Calgary General Hospital Bd., Calgary, Alta. Bids Sept. 27, awarded Nov. 7. CD 10/23, under LB.

Burns & Dutton Concrete & Constr. Co., Ltd., 9004 125 Ave., Edmonton, Alta., CA $668,885. PHYSICAL TRAINING BLDG., Army Barracks, EDMONTON, ALTA. Defence Constr. (1951), Ltd., 56 Lyon St., Ottawa, Ont. CD 11/5, under LB.

Burns & Dutton Concrete & Constr. Co., Ltd., 9004 125 Ave., Edmonton, Alta., CA $485,520. concrete, frame, brick Wellington JUNIOR HIGH SCHOOL, EDMONTON, ALTA. Edmonton Public School Bd., Edmonton, Alta. Awarded Nov. 8. CD 4/20.

Bird Constr. Co., Ltd., 202 13 St. N., Lethbridge, Alta., CA $289,500. site clearing, driving concrete piles, placing concrete for POWER PLANT exten., LETHBRIDGE, ALTA. City, City Hall, Lethbridge, Alta. Bids Nov. 9. CD 10/30.

Newton Constr. Co., Ltd., P. O. Box 970, Sherbrooke, Que., CA $786,300 (6 bidders) DETENTION BARRACKS and three GATE HOUSES, Camp Gagetown, FREDERICTON, N. B. Defence Constr. (1951), Ltd., 56 Lyon St., Ottawa, Ont. Awarded Nov. 12. CD 11/5, under LB.

W. B. Sullivan Constr., Ltd., 759 Warden Ave., Toronto, Ont., LB $812,917 (5 bidders) PHYSICAL TRAINING BLDG., Army Camp, CAMP BORDEN, ONT. Defence Construction (1951), Ltd., 56 Lyon St., Ottawa, Ont. Bids Nov. 6. CD 10/29.

▲ **Central Housing & Mortgage Corp.**, 40 Eglinton Ave. E., Toronto, Ont., cancelled bids to have been opened Sept. 11, 110-unit HOUSING, DEEP RIVER, ONT. $1,000,000. CD 8/23.

Hughes Constr. Co., Ltd., 365 Rogers Rd., Toronto, Ont., CA $350,000. third-story 50,000 sq. ft. OFFICE addn., Garratt Blvd., TORONTO, ONT. DeHavilland Aircraft Corp. of Canada, Ltd., Garratt Blvd., North York, Toronto, Ont. Sheppard & Powell, Ltd., 57 Bloor St. W., Toronto, Ont., engrs. Awarded Nov. 15.

Alexandre J. Mathieu, 589 115 St., Montmorency, Que., CA Est. $400,000. 2 story, bsmt., 58x289 ft. and 23x70 ft. SCHOOL, MONTMORENCY, QUE. La Commission Scolaire de Montmorency, 777 122 St., Montmorency, Que. Awarded Nov. 8. CD 2/27.

Foundation Co. of Canada, Ltd., 1980 Sherbrooke St. W., Montreal, Que., CA Est. $100,000. 1 story, 60x169 ft., steel, brick PLANT, St. Leonards' Rd., MONTREAL, QUE. Linde Air Products Co., 40 St. Clair Ave. E., Toronto, Ont. Bids Oct. 31, awarded Nov. 6. CD 10/31.

Douglas Bremner Constr., Ltd., 5965 Monkland Ave., Montreal, Que., CA Est. $340,000. 60x278 ft. PLANT with 34x140 ft. OFFICE space, Cote de Liesse Rd., MONTREAL, QUE. Susan Corp., Div. of Brunner & Lay, 9300 King St., Franklin Park, Ill., U. S. A. Bids Oct. 8, awarded Nov. 9. CD 10/2.

FOREIGN

HEAVY CONSTRUCTION—BA

Iraq—STEEL TOWERS, etc.—BA 2/4—The Development Bd. and Ministry of Development of the Govt. of Iraq, Baghdad, Contr. 8, steel towers and complete erection of lines for Electrification of Northern Iraq Power Transmission Lines. Plans deposit 25 Iraqi Dinars.

PROPOSED PROJECTS

WATER SUPPLY

Ala., Athens—City, City Hall, water sys. addn. $500,000. Polglaze & Basenberg, 812 S. 27 St., Birmingham, consult. engrs.

Calif., Santa Clara—City, City Hall, voted bonds Nov. 6, water sys. imprvs., extend city water supply and storage sys. $500,000. CD 9/27.

▲ **Ill., Galesburg**—City, City Hall, voted $3,000,000 bonds Nov. 6, water supply sys. addn. Casler & Stapleton, 202 S. Church St., Jacksonville, consult. engrs. CD 12/8.

▲ **Kan., Wichita**—City, City Hall, voted $7,650,000. bonds Nov. 6, pipe line for reservoir on north fork of Ninnescah River, near Cheney. CD 10/22.

Mo., Tipton—City, voted $143,000 bonds Oct. 30, WW and sewer imprvs. Frank Beard, Kahoka, consult. engr. CD 9/24.

N. Y., Albertson—Albertson Water Dist., Albertson, 1½ m.g. water storage tank on east side of Serpentine Lane, $465,000.

N. C., Pine Level—Town, water project, incl. wells, treatment plant, storage tank, distr. lines, hydrants and meters. $150,000. Moore, Gardner & Assocs., 426 W. Gaston St., Greensboro, engrs. CD 10/25.

▲ **O., Elyria**—City, City Hall, addnl. WW equip. to increase plant capacity to 20 m.g.p.d. $1,000,000-$1,200,000. 24 in. main from West Ridge Rd. and NYC tracks south to Albrecht Rd. and into 16th St. tank, $500,000. Havens & Emerson, 640 Leader Bldg., Cleveland, Zone 14, consult. engrs.

▲ **O., Lima**—City, City Hall, voted $1,900,000 bonds Nov. 6, water reservoir. CD 5/10/55.

O., North Kingsville—Village, Village Hall, voted bonds Nov. 6, WW imprvs., incl. mains. $100,000. CD 8/27.

O., Upper Sandusky—Village Bd. P. Affairs, Upper Sandusky, voted bonds Nov. 6, water storage reservoir $120,000. CD 7/26.

O., Westlake—Village, Village Hall, voted bonds Nov. 6, water lines. $500,000. CD 7/16.

▲ **Pa., Phila.**—City, Dpt. Procurement, City Hall Annex, plans by Walter Antrim & Charles G. Ester, 1602 Chestnut St., Torresdale Filter Plant, Chemical Bldg. $1,000,000. Morris Knowles, Inc., Park Bldg., Pittsburgh, consult. engr. CD 8/9/46.

Tex., Llano—City, City Hall, water plant expansion. $45,000; water retention dam on Llano River, $75,-000. William O. Leach, Coleman, consult. engr. CD 11/9.

Wash., Bremerton—City, City Hall, 2 m.g. reservoir at E. 17 St. and Ironsides Ave. $125,000. J. Cunningham & Assocs., Spalding Bldg., Portland, Ore., consult. engrs. C. C. Casad, water supt. CD 10/25.

Wash., Mountlake Terrace—City, City Hall, water sys. $150,000. J. Reid, city engr.

Wash., Veradale—Veradale Irrigation Dist. No. 5, N. 601 Evergreen Rd., voted $500,000 bonds Nov. 5, 1 m.g. domestic water reservoir and 65,000 ft. 6- to 16-in. distr. mains. H. E. Boway, Jr., Spokane & Eastern Bldg., Spokane, consult. engr. CD 10/12.

Ont., Sarnia—City Council, W. Nelson, mayor, E. R. Colter, city mgr., new 48 in. pipe to be extended 370 ft. into St. Clair River, $145,000. D. Silman, City Hall, engr.

SEWERS, WASTE DISPOSAL

Ala., Athens—City, City Hall, sewage disposal plant, Birmingham, consult. engrs. $350,000. Polglaze & Basenberg, 812 S. 27 St., Birmingham, consult. engrs.

Ind., Gary—City, City Hall, sewer addn. $500,000. Hurst Roche Eng. Co., 511 S. Main St., Hillsboro, Ill., consult. engr. CD 10/27/54.

▲ Kan., Emporia—City, cancelled Nov. 6 bond election, sewage treatment plant, sewer lines, water treatment plant, water lines, $1,700,000; new bond election in spring. Black & Veatch, 4706 Broadway, Kansas City, Mo., engrs. CD 10/15.

▲ Mich., Detroit—Wayne Co. Drain Comm., 3523 Cadillac Tower, 8 storm water and sanitary drains, $20,000,000.

▲ Mich., Hazel Park—City, Calvin-C. Henry, mgr., 222422 Stephenson Hy., One Town Drain, storm relief sewer, Dequindre Rd. $1,000,000. Municipal Consultant Service, 22633 Stephenson Hy., Hazel Park, consult. engrs. CD 11/2/44.

Minn., Bloomington—Village, F. Laska, village engr., voted $183,000 bonds Nov. 6, storm, sanitary sewers and water sys. in area N. and E. of Nine Mile Creek. G. M. Orr Eng. Co., 1004 Marquette Ave., Minneapolis, consult. engr. CD 10/4.

Mont., Libby—City, sewer and street imprvs. $500,000.

▲ N. J., Mount Holly—Mount Holly Sewage Auth., sewage treatment plant, sewer mns., $1,720,000. B. Harold Wills, Mount Holly, consult. engr. sewer lines. Lanning Sanitary Eng. Co., 1100 S. Broad St., Trenton, consult. engr. sewage plant. Bids in spring.

N. J., Vineland—Landis Twp. Sewage Auth., sanitary sewers, lateral lines exten., pumping station, force main, sewage treatment plant alterations, $650,000. Lanning Sanitary Eng. Co., 1100 S. Broad St., Trenton, consult. engr.

N. J., Williamstown—Monroe Twp., Township Hall, Main St., sanitary sewerage sys. and treatment plant, $800,000.

N. Y., Cheektowaga—Town, Town Hall, reconstr. incinerator plant, $250,000. Albert J. Kamm, c/o owner, engr. Nussbaumer, Clarke & Velzy, 327 Franklin St., Buffalo, consult. engrs. CD 11/8.

O., Eastlake—Village, Town Hall, voted bonds Nov. 6, storm sewers, $950,000. Morris F. Nall & Assocs., Prospect-4th Bldg., Cleveland, Zone 15, consult. engrs. CD 3/5.

O., Greenfield—Village, Village Hall, voted bonds for storm sewers $100,000. LeFeber & Assoc., 2933 Woodburn St., Cincinnati, consult. engrs.

O., Hubbard—Village, defeated bonds Nov. 6, sanitary and storm sewers, $200,000. CD 7/26.

▲ O., Painesville—City, City Hall, voted bonds Nov. 6, sanitary sewerage sys. completion, $325,000; defeated bonds Nov. 6, storm sewerage sys. $962,000. Havens & Emerson, 640 Leader Bldg., Cleveland, Zone 14, consult. engrs. CD 7/6.

O., Plymouth—Village, defeated $150,000 bonds Nov. 6, sewerage sys. $485,000. CD 7/26.

O., Shiloh—Village, Village Hall, voted $14,000 bonds Nov. 6, sewerage sys. incl. disposal plant, $275,000. CD 8/1.

O., Warren—Comrs. Trumbull Co., Court House, defeated bonds Nov. 6, county-wide sewage and drainage, $200,000. CD 10/23.

O., Washingtonville—Village, Lloyd Culler, mayor, voted $62,000 bonds Nov. 6, sewers, sewage disposal plant, $175,000.

O., Wellsville—City, voted bonds Nov. 6, sewage disposal plant, $900,000. Chester Engineers, 210 E. Parkway, Pittsburgh, Pa., consult. engrs. CD 7/20.

▲ Okla., Tulsa—City, City Hall, bond election Dec. 11, sanitary sewer extens. $3,475,000. W. R. Wooten, city engr. CD 11/22/55.

Pa., Lansdale—Boro Council, voted $500,000 bonds Nov. 6, sewerage sys., sewage disposal sys. CD 9/10.

S. D., Mobridge—City, sewage plant $170,000. Scott Eng. Co., Watertown, consult. engr.

Tenn., Columbia—City, City Hall, sewage treatment plant, $750,000. Patchen & Zimmerman, 525 Telfair St., Augusta, Ga., consult. engrs. CD 10/26.

▲ Tex., Garland—City, City Hall, sewage treatment plant, $650,000; outfall sewer lines, $1,000,000. Freese & Nichols, 407 Dan Cigar Bldg., Ft. Worth, consult. engrs. CD 7/9.

Tex., Mesquite—Big Town Co., c/o Wes-Fenton, 1006 Davis Bldg., Dallas, plans by Tatum & Quade, 2812 Fairmount St., Dallas, sanitary storm sewers, $100,000. Shrewsbury-Tharaldson Assoc., 216 S. Central St., Glendale, Calif., designers. CD 10/24.

Wash., Des Moines—Des Moines Sewer Dist., Des Moines, voted bonds Nov. 6, sewerage sys. and treatment plant, $700,000. Hill & Ingman, 1728 E. Madison St., Seattle, consult. engrs. CD 9/6.

Wash., Mountlake Terrace—City, City Hall, sanitary sewers, $450,000; storm sewers, $100,000. J. Reid, city engr.

▲ Wash., Ronald—Ronald Sewer Dist., Richmond Highlands, Ronald, defeated bonds Nov. 6, sewerage sys. and treatment facilities, $5,300,000. Hill & Ingman, 1728 E. Madison St., Seattle, consult. engrs. CD 9/20.

Wash., Snohomish—City, City Hall, sewer lines and disposal plant, $414,000. Carey & Kramer, 1917 1 Ave., Seattle, Zone 1, consult. engrs. CD 3/19/53.

Ont., Hespeler—Ont. Water Resources Comm., 67 College St., Toronto, sewage treatment plant, $479,000. Proctor, Redfern & Laughlin, 11 Jordan St., Toronto, consult. engrs.

BRIDGES

▲ Calif., Modesto—Stanislaus Co., Court House, voted $5,000,000 bonds Nov. 6, roads and bridges throughout the county. CD 10/3.

ILLINOIS—Illinois State Toll Highway Comm., 20 N. Wacker Dr., Chicago,

Cook and DuPage Counties—tri-level grade separation between Tri-state and East-West tollways southeast of Elmhurst. E. Lionel Pavlo, 7 E. 47 St., New York, N. Y., consult. engr. CD 11/3/55; under Streets and Roads.

▲ NEW YORK—Bureau Contracts & Accounts, The Gov. Alfred E. Smith State Office Bldg., Albany,

Erie Co.—hy. level viaduct over Union Ship Canal, with a clearance of 100 ft. above the canal, 1½ mi. long, beginning at top of viaduct just north of Tifft St. and continue southward over the Ship Canal, east of present bridge to a jct. at grade at Fuhrmann Blvd. and Ridge Rd., Lackawanna, $12,000,000.

O., Marion—City, City Hall, defeated bonds Nov. 6, grade crossing elimination. $500,000. CD 10/16.

Tex., Midland—City, bridge on North Blvd. $100,000.

Wash., Everett—City, City Hall, voted bonds Nov. 6 overpass on Alverson Blvd. at Norton Ave. $300,000. Hadley & Hadley, Securities Bldg., Seattle, Zone 1, consult. engrs. CD 9/17.

▲ Que., Shawinigan Falls—City, City Hall, toll bridge to replace present bridge over St. Maurice River at Shawinigan Falls, $2,000,000.

STREETS AND ROADS

▲ ALABAMA—State Hy. Comm., Montgomery,

Calhoun and Etowah Counties—4-lane highway 20 mi. from Anniston to Gadsden, $4,000,000. CD 8/4/55.

Calhoun Co.—four-lane highway link on Hy. 78 from Fort McClellan to Leatherwood, $1,000,000.

linking hy. 78 with downtown Anniston, $250,000.

grade land pave road from Oxford to Anniston, $759,000.

Ala., Fairfield—City, City Hall, imprv. Grasselli Rd., $150,000.

Mass., Fitchburg—City, P. Wks. Dpt., City Hall, highway work traffic circles at Putnam St. & City Hall & widening Broad and Main Sts. $137,000. CD 2/21/46.

Mich., Detroit—Bd. Supervs. Wayne Co., City-County Bldg., wid'n. Greenfield Rd. between Park and Belton Sts., 1.5 mi. $250,000. Bids in February-March. CD 4/11/51.

▲ Mich., Ecorse—City, City Council, 4373 High St., defeated $1,250,000 bonds Nov. 6, alley paving program. CD 7/5.

Mich., Pontiac—Oakland Co. Bd. Rd. Comrs., 550 S. Telegraph Rd., widening Greenfield Rd. from 40 to 60 ft. 1.5 mi. between Park and Belton. $250,000. John E. Mlitz, hwy. engr. Road Comrs., Pontiac.

▲ Mont., Billings—Special Improvement Dist., Billings, reconstr. streets where present base, mostly residential areas incl. some downtown streets, $5,260,000. To go ahead in April or May, resurf. existing paving where proper base exists with 2 in. hot mix overlay, $1,130,000. To go ahead in April or May, reconstr. arterial streets, provide storm drainage by correcting grade, repair curbs, addnl. storm sewer, $1,718,000. To go ahead in June. Sam B. Ward, city engr.

N. Y., Mineola—Bd. Supervs. Nassau Co., Old County Court House, Mineola, widen, imprv. about 1½ mi. Glen St.-Cedar Swamp Rd. from School St. to Sea Cliff Ave., Glen Cove, $500,000. Sidney B. Boane & Son, 222 Front St., engrs.

N. C., Raleigh—City, W. H. Carper, mgr., bond election Dec. 11, street imprvs. $350,000.

▲ O., Cincinnati—City, City Hall, widening Liberty St. from 20 to 70 ft. between Sycamore and Vine Sts. $1,250,000. T. J. Montgomery, c/o owner, engr. CD 6/27.

O., Hamilton—City, City Hall, defeated bonds Nov. 6, streets and bridges. $750,000. CD 10/10.

O., Steubenville—City, City Hall, voted bonds Nov. 6, acquisition of real estate and easements for High St. thoroughfare. $750,000. CD 10/10.

▲ O., Youngstown—City, City Hall, voted $8,000,000 bonds Nov. 6, southerly section arterial freeway. Robert J. Schomer, 5341 Old Oxford Lane, consult. engr. CD 7/18.

▲ Okla., Tulsa—City, City Hall, bond election Dec. 11, street imprvs. $4,275,000. W. R. Wooten, city engr. CD 11/22/55.

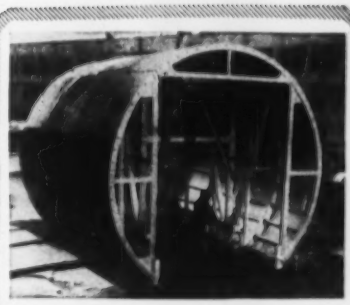
Pa., Aliquippa—Boro, Boro Bldg., voted bonds Nov. 6, paving Highland and Grand Aves. $800,000. Morris Knowles, Inc., Park Bldg., Pittsburgh, engr.

Tex., Fort Worth—City, City Hall, widening N.W. 12 St. $160,000. Scott Eng. Co., 3400 B Camp Bowie St., consult. engr. CD 9/17/51.

Tex., Houston—Southern Enterprises, Inc., c/o San Jacinto Bldg., hard paved and drained areas, around hotel, motel, $100,000. Jas. Howard & Assoc., 4101 San Jacinto Bldg., consult. engrs. CD 11/14.

Tex., Mesquite—Big Town Co., c/o Wes Fenton, 1006 Davis Bldg., Dallas, plans by Tatum & Quade, 2812 Fairmount St., Dallas, area paving and 3,500 auto parking center, $200,000. Shrewsbury-Tharaldson, Assoc., 216 S. Central St., Glendale, Calif., designers. CD 10/24.

▲ Tex., Midland—City, City Hall, street work, central or business sect., $389,330; general street work, east side, $475,000; general street work, west side, $275,000; paving on North Blvd. $335,670.



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Wash., Everett—City, City Hall, voted bonds Nov. 6, arterial street work, $200,000. CD 9/19.

Wash., Kennewick—City, City Hall, voted $148,000 bonds, Nov. 6, widening W. Kennewick Ave. CD 10/10.

EARTHWORK, WATERWAYS

▲ Calif., San Rafael—Marin Co., 1711 Grand Ave., voted $12,600,000 bonds Nov. 6, finance constr. of $3,000,000 earth fill dam on Nicasio Creek, to be built in 1960; incl. 3 filtration plants and distr. lines. CD 11/16/55.

New Jersey—N. J. Dpt. Conservation & Economic Development, 1060 Broad St., Newark, timber bulkhead, Pine Ave., etc., North Wildwood, $180,000.

Tex., Houston—Southern Enterprises, Inc., c/o San Jacinto Bldg., grounds development, grading, leveling, filling, landscape, $150,000. Jas Howard & Assoc., 4101 San Jacinto Bldg., consult. engrs. CD 11/14.

Tex., Marlin—Falls County Water Control & Imprvt. Dist. No. 1, c/o Hillary H. Barganier, Marlin, general drainage, $100,000; flood prevention proj., incl. embankments, channeling, small dams, $90,000.

Tex., Midland—City, general drainage, $150,000. CD 4/11/55.

AIRPORTS

▲† Calif., Beale Air Force Base—RUNWAY, etc.—U. S. Eng. 1209 B St., Sacramento, runway primary (concrete) and facilities, Beale Air Force Base, $10,000,000-$15,000,000. Bids in February. CD 8/23.

▲† Calif., Sacramento—AIR FORCE BASE—U. S. Eng., 1209 B St., Sacramento, masonry communication base, $100,000-$200,000; masonry airmen's dining hall, $400,000-$500,000; masonry airmen's dormitory, $1,000,000; masonry officers quarters (men), $400,000-$500,000, all foregoing bids in January; masonry operations bldg., $50,000-$100,000; storage AV fuel, $200,000-$300,000, all foregoing bids in February; operation apron (concrete) $1,000,000-$2,000,000; runway extens. (concrete) and runway wid'n. (AC) $7,000,000-$9,000,000; electric supply (overhead elec. distr. and sub-stations) $200,000-$300,000; telephone support (underground duct line) $200,000-$300,000; hydrant fueling facilities, $1,000,000, all foregoing bids in March; masonry parachute and dinghy shop, $100,000-$200,000; concrete base warehouse, $300,000-$400,000; extension of existing water supply sys., $400,000; masonry crash fire station, $200,000; masonry squadron operations, $200,000-$300,000; masonry special purpose aircraft maintenance shop $200,000-$300,000; ammunition and electronics supply, masonry $200,000-$300,000, all foregoing bids in April; enlarging sanitary sewage treatment plant, $200,000, bids in May. CD 8/23.

▲† Calif., Sacramento—RUNWAY, etc.—U. S. Eng., 1209 B St., concrete primary runway $2,500,000-$3,000,000, bids in February; masonry technical laboratory, base special projects laboratory, $500,000-$600,000, bids in January, McClellan Air Force Base. CD 8/21.

† Fla., Cocoa—LABORATORY, etc.—Dist. P. Wks. Office, Sixth Naval Dist., Bldg. 12, U.S. Naval Base, Charleston, S. C., plans by Alexis B. Kononoff, consult. archt.-engr., 620 N. W. 32 St., Miami, Zone 37, electronic radar—laboratory and facilities for Patrick Air Force Base. CD 8/23.

▲† Mich., Battle Creek—WARNING STATION—U. S. Eng., 600 E. Jefferson Ave., Detroit, Zone 26, Fort Custer U. S. Air Force Base, SAGE Proj., Midwest Air Warning Station. $1,688,500.

Mich., Jackson—AIRPORT—State Dpt. Aeronautics, Capital City Airport, Lansing, municipal airport, 310 acre site for expansion. $167,180. L. C. Andrews, State Dpt. Aeronautics, Lansing, ch. engr.

▲† Nev., Reno—AIR BASE—U. S. Eng., 1209 8th St., Sacramento, Calif., concrete block airmen's dormitory, dining hall, officers quarters, heating plant. $2,000,000-$3,000,000, bids December, 1956; rehabilitation of sanitary sewage treatment plant, $100,000-$200,000, bids January, 1957, at Stead Air Force Base. CD 8/23.

▲† Nev., Tonopah—AIR FORCE STATION—U. S. Eng., 1209 8th St., Sacramento, Calif. masonry operations bldg., masonry airmen dormitory; masonry electrical emergency power and masonry recreation facilities, Tonopah Air Force Station. $1,000,000. Bids May, 1957.

▲† Tex., Kelly Air Force Base—AIR BASE—U. S. Eng., Box 1229, Galveston, plans by Addis E. Noonan Assocs. & Jerry Rogers, archts.-consult. engrs., 2002 N. St. Marys St., San Antonio, miscellaneous bldgs. $1,250,000; central heating plant, $250,000; paint-oil-dope storage, $200,000; motor service shop, $750,000; supply and armament storage warehousing, $750,000; hangar, $750,000; security fencing, $100,000; water sys., $60,000; storm sewers, $80,000; sanitary sewers, $85,000; area paving, $100,000; natural gas sys. distr. $80,000. CD 8/10/52.

LATIN AMERICA

▲ Argentina, Buenos Aires—POWER PLANT—Agua y Energia Electrica, (State Agency), Buenos Aires, plans 600,000 thermal electric power plant. $122,000,000.

▲ Brazil, Rio de Janeiro—REFINERY—Petrobras, Brazilian Govt. Oil Agency, Rio de Janeiro, plans 90,000 bbl. refinery. $10,000,000.

▲ Mexico, Vera Cruz—DRY DOCK—Sria. de la Marina (Navy Dpt.), Mexico City, plans dry dock $2,000,000.

PUBLIC BUILDINGS

▲ Ala., Birmingham—AUDITORIUM—City, City Hall, voted $1,000,000 bonds Nov. 6, air conditioning and expanding of city's municipal auditorium. CD 10/4.

▲ Ark., Little Rock—LIBRARY—City, City Hall, voted $1,295,000 bonds Nov. 6, library.

▲ Calif., Davis—SAILS, etc.—University of Calif., Bd. Regents Admin. Bldg., plans by Baravitto & Thomas, 718 Alhambra Blvd., Sacramento, sails and plant nutrition bldg. $1,250,000.

Calif., Davis—SCHOOL—Davis Elementary School Dist., c/o Clerk, Davis, voted $190,000 bonds, elementary school. $750,000.

▲ Calif., Eureka—COURTHOUSE, etc.—Humboldt Co., Courthouse, plans by Russell G. de Loppe & Mitchell Von Baurg Archts. Assoc., Claremont Hotel, Berkeley, rein-con. New courthouse and jail, $2,000,000. CD 7/12/55.

Calif., Fairfax—SCHOOLS—Fairfax Elementary School Dist., voted bonds Nov. 6, elem. schools and addn. to present schools. $750,000. CD 7/27.

▲ Calif., Hanford—SCHOOL—Hanford Joint Union High School Dist., c/o Supt., 120 E. Grangeville St., voted $500,000 bonds Nov. 6 constr., addn. to existing school, etc. $1,037,000. CD 10/30.

Calif., Los Angeles—SCHOOL—Bd. Educ., 1425 S. San Pedro St., plans by Norman J. Hunter, 5657 Wilshire Blvd., Rinaldi St. School, San Fernando. $450,000. CD 4/8/55.

▲ Calif., Los Angeles—HOSPITAL—Regents of the University of Calif., Admin. Bldg., plans by Welton Becket, 5657 Wilshire Blvd., 6 story, 200 bed hospital and outpatient clinic research wing and teaching facilities, neuropsychiatric unit, $6,000,000.

▲ Calif., Mill Valley—Tamalpias Union High School Dist., Mill Valley, voted $1,140,000 bonds Nov. 6, high school, $2,300,000. Gromme, Mulvin & Priestly, 1539 A St., San Rafael, archts. CD 11/3/55.

Calif., Monterey—CIVIC CENTER—City, City Hall, voted bonds Nov. 6, civic center annex, admin. offices, fire and police dpts., fire station and quarters and equipment room and police station. $350,000. CD 10/31.

▲ Calif., Monterey—SCHOOLS—Monterey County School Dist., c/o Supt., P. O. Box 851, Salinas, Stillwell Elementary, Toyon Elementary School, Fort Ord Junior High School and addn. to Bay View school, $2,000,000.

Calif., Pomona—CIVIC CENTER—City Council, City Hall, plans by The Associated Architects of Pomona, c/o Amos Randall, archt., 341 Orange Grove Ave., civic center between 5th and 9th Sts. and between Garey and Park Aves. $500,000. Glenn A. Crawford, c/o owner, engr.

Calif., Roseville—SCHOOL—Roseville City Elementary School Dist., c/o Supt., Box 791, voted bonds Nov. 6, school constr. $450,000. Charles F. Dean, 1521 I St., Sacramento, archt.

▲ Calif., San Jose—JUVENILE HALL, etc.—Bd. Supvrs., Santa Clara Co. Court House, voted bonds Nov. 6, juvenile hall and probation department, $1,200,000; defeated bonds Nov. 6, county office and service bldg., $2,825,000; hospital chronic nursing unit, $450,000; health dept. wing, $180,000; north county bldg., $835,000; communications bldg. $350,000; land acquisition for county bldgs. $1,275,000. CD 10/28/55.

▲ Colo., Littleton—SCHOOLS—School District No. 6, 176 S. Grant Ave., voted $1,250,000 bonds Oct. 30, schools. Alfred Watts Grant & Assoc., 1640 Court Pl., Denver, Atchison & Kloverstrom, 256 Josephine St., Denver, and Earl Chester Morris, 122 E. Ave., Denver, archts. CD 10/8.

Conn., Naugatuck—HOUSING—Naugatuck Housing Auth., IDA St., plans by Henry Moeckel & Son, 35 Hillcrest Ave., moderate rental housing, 32 units, Lewis Meadows, 8 bldgs., 4 units each, $605,000. CD 4/4.

Del., Frankford—SCHOOL—John M. Clayton School Dist., plans by Walter Carlson, 1014 Delaware Ave., Wilmington, John M. Clayton School addn. $375,000. CD 4/20.

▲ Del., Middletown—SCHOOL—Middletown School Dist. No. 60, plans by Pope & Kruse, 911 Washington St., Wilmington, Middletown Elementary School addn. $1,480,000.

▲ Del., Wilmington—SCHOOLS—Alfred I. Dupont Special School Dist. 3606, Concord Pike, Talleyville, Wilmington, plans by Whiteside, Moeckel & Carbonell, 909 Tatnall St., high school bldg., $1,000,000; elementary school, Foulk Rd. north of Wilson Rd., $1,200,000. Bids 1/23/57. CD 12/19.

† Fla., Winter Haven—AGRICULTURAL RESEARCH LABORATORY—General Services Admin., P. Bldgs. Service, General Services Bldg., Wash. 25, D. C., plans by James Gamble Rogers II, Winter Park, Fla., agricultural research laboratory for Dpt. Agriculture, $785,000.

▲ Ill., Belleville—NURSING HOME—St. Clair Co. Bd. Supervs., Court House, defeated $1,100,000 bonds Nov. 6, new county nursing home on Collinsville Ave., Swansea, adjacent to Belleville. Joseph D. Standish, Spivey Bldg., East St. Louis, Ill. archt. (Correction—status). CD 11/9.

▲ Ill., Northbrook—SCHOOL, etc.—School Dist. 225, 2300 Shermer Rd., plans by Perkins & Will, 309 W. Jackson Blvd., Chicago, high scool addn. and swimming pool, 2300 Shermer Rd. $2,400,000.

Iowa, Fenton—SCHOOL—Central Community School Dist., K. M. Chase, supt. Schools, Fenton, $450,000 bond election Dec. 15, schools, incl. new high school. Bonds Oct. 27 defeated. CD 11/13.

Kan., Great Bend—SCHOOL—School Dist. No. 1, Barton Co. D. V. Swartz, supt. Schools, voted $1,290,000 bonds Nov. 6, Junior High School, Harrison, Polk, 19 and 21 Sts. Hibbs, Robinson & Pettit, 519 S. Broadway, Wichita, archts. CD 10/10.

▲ Kan., Parsons—HOSPITAL—Labette Co., Courthouse, Oswego, Sisters of St. Joseph Mercy Hospital, Parsons, defeated $960,000 bonds Nov. 6, 4 story, bsmnt. 45x235 ft. with 40 ft. L 100-bed hospital. $1,000,000. Ash & Harrison, 307½ Laura St., Wichita, archts. CD 10/3.

Me., Gorham—SCIENCE—State Dpt. Educ., State House, Augusta, plans by Stanley S. Merrill, 95 High St., Auburn, science bldg. State Teachers College, $424,000. Bids March 1957.

▲ Mass., Amherst—LIBERAL ARTS CLASSROOM—Commonwealth of Mass. University of Mass., Kenneth W. Johnson, treas., c/o Div. Bldg., Constr. 38 Chauncy St., Boston, plans by Shepley Bulfinch, Richardson & Abbott, 1 Court St., Boston, U-802 Liberal Arts Classroom Bldg., Univ. of Massachusetts. $2,000,000. Bids in December. CD 2/8/55.

Mass., Lowell—HOUSING—City, Housing Auth., 18 Market St., plans by Keakyn & Browne, 184 Boylston St., Boston, 75 units, 5 sites, housing for The Elderly, $525,000. Consulting Engineers Inc., 184 Boylston St., Boston, mech. engr. CD 1/27/50.

Mich., Harper Woods—MUNICIPAL, etc.—City, Marie T. Baron, clk., voted bonds Nov. 6, for municipal bldg. and DPW garage. $590,000. CD 8/31.

▲ Mich., Muskegon—COURTHOUSE, etc.—Bd. Supervs., Muskegon Co., 953 E. Keating Ave., voted bonds Nov. 6, courthouse, jail, juvenile detention home, welfare bldg., library, psychiatric wing addn. to hospital, $3,300,000. Bernard J. DeVries, 615 Hackley Union Bldg., Muskegon, archt. CD 11/18/54.

Minn., Byron—SCHOOL—Bd. Educ., C. Hovenden, supt. schools, plans by E. B. Croft, 3453 Aldrich Ave. S., Minneapolis, constr. 2 story, 12 classroom school addn. $400,000.

Minn., Lake Wilson—SCHOOL—Bd. Educ., Dr. G. R. Suedkamp, clk., voted $385,000 bonds Oct. 24, high school addn., remodel existing bldg. $350,000. H. Spitznagel & Assoc., 1800 S. Summit Ave., Sioux Falls, S. D., archts. CD 4/26.

Minn., Littlefork—HOME FOR AGED—Koochiching Co., P. Donahue, aud., cancelled referendum on authorizing $485,000 bond issue for Nov. 6 election, home for aged. A. R. Melander, 603 Alworth Bldg., Duluth, archt. CD 9/19.

Minn., Owatonna—HOSPITAL—City, L. R. Haberman, clk., voted $500,000 bonds Nov. 6, community hospital, $750,000.

▲ Mo., Columbia—SCHOOLS—Bd. Educ., voted $1,680,000 bonds Oct. 23, schools, Marshall & Brown, 1026 Baltimore Bldg., Kansas City, Mo., archts. CD 10/3.

Mo., Platte City—SCHOOL—School Dist. No. 5, Platte Co., Platte City, voted $450,000 bonds Nov. 6, Park Hill High School, Terrel & McCall, 1026 Baltimore St., Kansas City, Mo., archts.

Mo., Tarkio—SCHOOL—Reorganized School Dist. No. R1, plans by Eckel & Aldrich, Corby Bldg., St. Joseph, school, $595,000. CD 10/7/55.

▲ Mont., Butte—HOSPITAL—Silver Bow Co., Court House, voted $2,000,000 bonds Nov. 6, 4 story county hospital, N. J. Hamill, 122 W. Granite St., archt. CD 2/17.

▲ Mont., Columbia Falls—SCHOOL—Columbia Falls High School Dist., voted $1,490,000 bonds high school, Weed & Fehlberg, Sundelius Bldg., Kalispell, archts. CD 10/12.

▲ Mont., Great Falls—HOSPITAL—Cascade Co., Court House, voted $1,900,000 bonds Nov. 6, county convalescent hospital. CD 10/10.

▲ Mont., Kalispell—COURT HOUSE—Flathead Co., Court House, defeated bonds Nov. 6, 2 story court house and jail, $1,200,000. Richard Taylor, Ford Block, archt. CD 5/4.

▲ N. J., Glendale—SCHOOL—Central Camden County Regional School Bd., 420 Tolinson Ave., Laurel Springs, plans by F. Herbert Radey, 8 and Market Sts., Camden, Senior High School. $2,000,000.

N. Y., East Meadow—LIBRARY—East Meadow Library Bd., East Meadow, proposition rejected Oct. 27, library on Front St. and Newbridge Rd. $600,000. CD 10/3.

N. Y., Syosset—SCHOOL—Central School Dist. No. 2, voted $850,000 bonds Oct. 30, elementary school, west side of Robbins Lane. CD 10/27.

▲ N. C., Raleigh—CITY HALL—City, W. H. Carper, mgr., bond election Dec. 11, city hall, $1,625,000. CD 9/4.

N. D., Bismarck—ADMINISTRATION—State Bd. Higher Educ., Bismarck, administration bldg., University of North Dakota. $750,000.

N. D., Ellendale—HEALTH-PHYSICAL EDUCATION—State Bd. Higher Educ., Bismarck, health-physical education bldg., Ellendale State Industrial School. $345,000.

N. D., Fargo—PHARMACY—State Bd. Higher Educ., Bismarck, pharmacy bldg., North Dakota Agriculture College. $500,000. CD 11/16/50.

N. D., Mayville—COLLEGE BUILDINGS—State Bd. Higher Educ., Bismarck, science, library and physical education bldg., Mayville Teachers College. $400,000.

▲ O., Akron—SCHOOLS—Springfield Local School Dist., Sanitarium Rd., voted bonds Nov. 6, new schools and addn. to existing schools. $1,100,000. CD 10/15.

O., Amherst—SCHOOL—Bd. Educ., voted $125,000 bonds Nov. 6, 1 and 2 story secondary school. $901,600. Fulton, Krinsky & DelaMotte, 6014 Euclid Ave., Cleveland, Zone 5, archts. CD 7/27.

O., Bowling Green—SCHOOL—Bd. Educ., Bowling Green, voted $527,000 bonds Nov. 6, schools. CD 7/27.

▲ **O., Bowling Green**—RESIDENTIAL CENTERS—Dpt. P. Wks., 705 Ohio Dpts. Bldg., Columbus, 3 residential centers for students, Bowling Green State University. $4,900,000. Bids 1957. CD 5/5/55.

▲ **O., Brookfield**—SCHOOLS—Brookfield School Dist., Brookfield, voted bonds Nov. 6, Curtis School addn. $1,030,000. CD 8/17.

▲ **O., Canton**—SCHOOLS—Bd. Educ., Plain Center School Dist. R 2, Canton, voted bonds Nov. 6, schools, $1,457,000. CD 5/16.

O., Chardon—JAIL—Comrs. Geauga Co., Court House, defeated bonds Nov. 6, county jail, $415,000. Bruce Huston & Assoc., Chardon, archts. CD 7/12.

▲ **O. Cincinnati**—CITY HALL—City, City Hall, city hall bldg. $8,000,000. T. J. Montgomery, city engr.

O., Cincinnati—PARKING—City, City Hall, plans by Felsberg & Gillespie, 6 E. 4 St., 3 deck, concrete, steel garage type bldg., 7th and Sycamore Sts. $550,000. Hanley & Young, 123 6th St., consult. engrs. CD 7/20/55.

▲ **O., Conneaut**—SCHOOL—Bd. Educ., Conneaut, voted bonds Nov. 6, Junior High School annex and new elementary school. $1,100,000. Ward & Conrad, Hanna Bldg., Cleveland, Zone 15, archts. CD 7/25.

O., Coventry—SCHOOL—Coventry Local School Dist., Coventry, voted bonds Nov. 6, schools, $350,000. CD 10/12.

O., Dover—SCHOOL—Tuscarawas Valley Local School Dist., Dover, defeated bonds Nov. 6, new school and addn. $894,000. CD 10/16.

O., Fairfield—SCHOOL—Bd. Educ., Fairfield, voted bonds Nov. 6, schools, $785,000.

▲ **O., Fremont**—COUNTY HOME FOR AGED—Comrs. Sandusky Co., Court House, defeated bonds Nov. 6, county home for aged, $1,184,000. CD 5/2.

O., Grafton—SCHOOL—Midview School Dist., Grafton, voted bonds Nov. 6, elementary school. $493,000. Beiswenger, Hoch & White, 661 W. Market St., Akron, archts. CD 8/24.

O., Hamilton—JAIL—Comrs. Butler Co., Court House, defeated bonds Nov. 6, county jail. $750,000. CD 8/1.

▲ **O., Hamilton**—SCHOOL—Bd. Educ., 322 Dayton Ave., voted bonds Nov. 6, school expansion, incl. 2 new high schools, $6,480,000. CD 5/16.

O., Hudson—SCHOOL—Hudson Local School Dist., Hudson, voted bonds Nov. 6, schools. $500,000. CD 10/12.

O., Huron—SCHOOLS—Huron School Dist., Huron, voted bonds Nov. 6, schools, $989,000. CD 8/7.

O., Lexington—HIGH SCHOOL—Bd. Educ., Lexington, voted $305,000 bonds Nov. 6, high school. $475,000. CD 3/15.

O., Lima—LIBRARY—City, City Hall, voted bonds Nov. 6, library, $880,000. CD 9/28.

▲ **O., Louisville**—SCHOOLS—Bd. Educ., Louisville, voted bonds Nov. 6, schools. $1,150,000. CD 7/6.

▲ **O., Marlboro**—SCHOOL—Marlington School Dist., Marlboro, defeated bonds Nov. 6, new high school, $1,025,000. CD 8/10.

▲ **O., Middletown**—SCHOOL—Bd. Educ., voted bonds Nov. 6, school expansion. $6,500,000. CD 7/24.

O., Ravenna—HIGH SCHOOL—Ravenna Bd. Educ., Ravenna, voted bonds Nov. 6, schools. $786,000. Fulton, Krinsky & DelaMotte, 6014 Euclid Ave., Cleveland, archts. CD 7/19.

O., Sandusky—SCHOOL—Perkins School Dist., Sandusky, voted bonds Nov. 6, schools, addns., alterations. $950,000. CD 8/7.

O., South Point—SCHOOLS—South Point Local Dist., South Point, voted bonds Nov. 6, schools. $946,000. CD 10/31.

▲ **O., Springfield**—SCHOOL—Springfield School Dist., 49 E. College Ave., voted $1,050,000 bonds Nov. 8, high school, 3 elementary schools, plus 8 other school addns. CD 11/11/55.

O., Steubenville—SCHOOL—Cross Creek Local School Dist., voted bonds Nov. 6, schools, $617,000. CD 10/12.

▲ **O., Warren ADMINISTRATION**—Comrs. Trumbull Co., Court House, defeated bonds Nov. 6, county administration bldg. $1,800,000. CD 7/12.

▲ **O., Washington Court House**—HIGH SCHOOL—Bd. Educ., Miami Trace School Dist., Washington Court House, plans by John Kline, Old Mill Rd., Springfield, high school, corner Rte. 70 and Bloomingburg-New Holland Pike. $1,652,500. CD 11/9.

▲ **O., Willoughby**—HOSPITAL—Comrs. Lake Co., Court House, voted $3,500,000 bonds Nov. 6, hospital. CD 7/23.

O., Youngstown—SCHOOL—Bd. Educ., Austintown School Dist. voted bonds Nov. 6 for school program. $803,000. CD 11/14/55.

Okla., Altus—COURTHOUSE—Jackson Co., Altus, defeated bonds Oct. 30, courthouse, $350,000. CD 10/3.

Okla., Chickasha—HOSPITAL—Grady Co., Courthouse, voted bonds Nov. 6, Grady County Hospital, $930,000. CD 10/12.

▲ **Pa., Phila.**—HEALTH CENTER—City, Dpt. Procurement, City Hall Annex, plans by Montgomery & Bishop, 138 N. 17 St., Phila., health center, Broad St. near Lombard St. $1,100,000. Bids in January.

▲ **Pa., Phila.**—HOUSING—Phila. Housing Auth., 42 S. 15 St., plans by Antrim & Etter, 1601 Chestnut St., Norris Low cost housing, 11 and Norris Sts. $1,500,000. CD 4/10.

▲ **Pa., Phila.**—HOUSING—Phila. Housing Auth., 42 S. 15 St., plans by Martin Stewart & Noble, 117 S. 17 St., Hoffman Housing, 151 units, 55 and Vine Sts., $2,265,000. Ewald & Miller, 10 S. 18 St., Phila., consult. engrs. CD 5/11.

Tex., Cuero—SCHOOL—Cuero Ind. School Dist., Cuero, voted bonds Nov. 3, 3-grade high school, $700,000. Fehr & Granger, 502 E. 9th St., Austin, archts. CD 10/31.

Tex., Denton—HOSPITAL—Flow Memorial Hospital, T.M. Barnes, chn. Bd. Trustees, Denton, voted bonds Nov. 6, hospital. $712,500. CD 8/14, under Commercial Buildings.

▲ **Tex. Houston**—HIGH SCHOOL—Houston Independent School Dist., 1300 Capitol St., plans by MacKie & Kamrath, 2713 Ferndale St., Senior High School, between Courtland St. and Yale Ave. at 39 St. in Burrus Area. $2,300,000. Walter P. Moore, 2 Pinedale St. and R. L. Jenkins, 2622 Richmond St., consult. engrs. CD 6/8.

▲ **Tex., Odessa**—SCHOOLS—Ector County Independent School Dist., Odesa, plans by Taylor & Devlin, 300 N. Jackson St., Burnet and Cameron School addns., $700,000; plans by Peters & Fields, 216 E. 8 St., Reagan and Zavalla School addns., $700,000. CD 11/8.

▲ **Tex., Pasadena**—SCHOOLS—Pasadena Independent School Dist., Pasadena, Junior High School unit, $1,750,000; high school unit, $1,500,000; Elementary School No. 1, $1,000,000; Elementary School No. 2, $750,000; Elementary School No. 3, $850,000; Elementary School No. 4, $900,000. CD 2/18/55.

Tex., Sweeny—SCHOOL—Sweeny Ind. School Dist., Sweeny, plans by Caudill, Rowlett, Scott & Assoc., 425 S. Main St., Bryan, 64,000 sq. ft. masonry high school plant. $750,000. CD 3/5.

Tex., Waco—SCHOOL—Waco Independent School Dist., Waco, plans by Walter Cocke, Jr. & Co., 1507 Franklin St., Meadowbrook Elementary School. $350,000. CD 5/1/53.

▲ **Wash., Bellevue**—SCHOOLS—School Dist. 405, Bellevue, special levy voted Nov. 6, Senior High School $1,000,000; Junior High School $500,000.

▲ **Wash., Cle Elum**—PLANT—State Power Comm., Olympia, authorized Ford, Bacon & Davis, engrs., 39 Broadway, New York, N. Y., to obtain equipment prices on "letter of intent" for two 152,600 kw. coal burning steam plant. $50,300,000. CD 9/28.

Wash., Mead—SCHOOL—School Dist. 354 voted $700,000 bonds Nov. 6, Junior High School.

Wash., Mercer Island—SCHOOL—School Dist. No. 400, Mercer Island, voted $700,000 bonds Nov. 6, Lakeview Junior High School.

Wash., Mossyrock—SCHOOL—School Bd. voted bonds Nov. 6, high school. $435,000. W. A. Johnson, 3506 Broadway, Everett, archt. CD 10/10.

Wash., Naselle—SCHOOL—School Dist. 129-30, Naselle, defeated special levy Nov. 6, high school. $500,000. CD 10/12.

Wash., Port Angeles—COURT HOUSE—Clallam Co., Court House, defeated bonds Nov. 6, court house addn. $450,000. CD 10/5.

Wash., Puyallup—GYMNASIUM—School Bd., Puyallup, voted $180,000 bonds Nov. 6, gymnasium addn. to high school. $540,300. CD 8/2.

▲ **Wash., Seattle**—WAREHOUSE—City, County City Bldg., city light warehouse and service headquarters, Stone Ave. and N. 100 St. $1,275,000. P. J. Raver, City Light Supt., City Light Bldg. Bids next year.

▲ **Wash., Seattle**—SCHOOLS—Highline School Dist., 401, 253 S. 152 St., voted bonds Nov. 6, Junior High School, 42 Ave. S. and S. 188 St. in Bow Lake District. $450,000; Lakewood Junior High School, 10 Ave. S. W. and S. W. 116 St. $1,000,000; Sunset Junior High School, 18 Ave. S. and S. 104 St. $500,000. CD 11/1.

Wash., Selah—SCHOOL—School Dist. 119, Selah voted $100,000 bonds Nov. 6, Junior High School addn. $420,000.

Wash., Spanaway—SCHOOL—Bethel School Dist., Spanaway, voted $350,500 bonds Nov. 6, and $135,000 special levy Junior High School. $900,000. CD 10/31.

Wash., Spokane—SCHOOLS—Central Valley School Dist., 356 N607 Pines Rd., voted bonds Nov. 6, two 18 classroom elementary schools, each $400,000; Junior High School, $500,000. CD 9/28.

† **Wash., Spokane**—POST OFFICE TERMINAL—General Services Admin., P. Bldgs. Admin., General Services Bldg., Wash., D. C., plans by Whitehouse, Price, DeNeff & Deeble, Hutton Bldg., 160,000 sq. ft. post office terminal annex bldg. and garage. $1,000,000. Work to start next spring. CD 10/19.

▲ **Wash., Spokane**—SCHOOLS—Spokane School Dist., W503 4 St., voted bonds Nov. 6, 3 Junior High Schools. $3,000,000 each. CD 8/6.

Wash., Sumner—HIGH SCHOOL—School Bd., Sumner, voted $400,000 bonds Nov. 6, high school. $600,000. CD 3/5.

▲ **Wash., Tacoma**—COUNTY—CITY WING—Pierce Co., County Court House, and City, City Hall, Tacoma, voted bonds Nov. 6, law enforcement wing to county-city bldgs. $2,700,000. CD 9/21.

Wash., Tacoma—SCHOOL REMODELING—School Bd., S. 8 and Tacoma Sts., voted $850,000 bonds Nov. 6, remodeling Stadium High School. CD 10/5.

Wash., Yakima—LIBRARY—City, City Hall and Yakima Co., Court House, Yakima, voted $400,000 bonds Nov. 6, library. $800,000. J. S. Villesvik, Liberty Bldg., archt. CD 9/6.

Wis., Eau Claire—STUDENT UNION—Bd. Regents of State Colleges, Madison, plans by Larson & Playter, 401 S. Barstow St., Student Union Bldg. $510,000-$765,000.

Wis., La Crosse—STUDENT UNION—Bd. Regents of State Colleges, Madison, plans by Schubert, Sorensen & Assoc., 308 Hoeschler Bldg., Student Union Bldg. $510,000-$765,000.

▲ **Wis., Madison**—DORMITORY—University of Wisconsin, Madison, plans by Roger C. Kirchhoff, state

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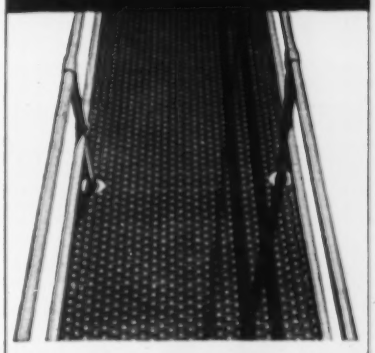

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archt., c/o owner, Chadbourne Hall, dormitory for women, 3 to 10 story wings, $2,415,000. CD 2/24/55.

Wis., Menomonie—STUDENTS UNION—Bd. Regents of State Colleges, Madison, plans by Larson & Playter, 401 S. Barstow St., Eau Claire, Student Union Bldg., $510,000-$765,000. CD 9/27.

▲ **Wis., Milwaukee**—MUSEUM—Public Museum Bd., 818 W. Wisconsin Ave., voted bonds Nov. 6, public museum. $7,540,000. CD 10/24.

Wis., Oshkosh—STUDENT UNION—Bd. of Regents of State Colleges, Madison, plans by Sanstedt & Knoop, 22 Otter St., Student Union Bldg., $510,000-$765,000.

Wis., Platteville—STUDENT UNION—Bd. Regents of State Colleges, Madison, plans by Gausewitz & Cashin, 110 E. Main St., Madison, Student Union Bldg. $510,500-$765,000.

Wis., River Falls—STUDENT UNION—Bd. Regents of State Colleges, Madison, plans by Schubert, Sorenson & Assoc., 308 Hoeschler Bldg., La Crosse, student union bldg. $510,000-$765,000.

Wis., Stevens Point—STUDENT UNION—Bd. Regents of State Colleges, Madison, plans by Marvin R. Dobberman & K. W. Kelske, 304 Bd. of Trade Bldg., Superior, Student Union Bldg. $510,000-$765,000. CD 4/6.

Wis., Superior—STUDENT UNION—Bd. Regents of State Colleges, Madison, plans by M. R. Dobberman & K. W. Kelske, 304 Bd. of Trade Bldg., Student Union Bldg. $510,000-$765,000. CD 4/6.

Wis., Viroqua—SCHOOL—Bd. Educ., Viroqua, voted $465,000 bonds, high school. CD 10/15.

Wis., Whitewater—STUDENT UNION—Bd. Regents of State Colleges, Madison, plans by Gausewitz & Cashin, 110 E. Main St., Madison, Student Union Bldg. $510,000-$765,000.

Wyo., Green River—COURT HOUSE—Sweetwater Co., Court House, Green River, defeated $800,000 bonds Nov. 6, county court house. Kellogg & Kellogg, 309 N. Front St., Rock Springs, consult. engrs. CD 10/8.

▲ **Alta., Edmonton**—GARAGE—City, 301 Civic Block, Edmonton, central garage, $1,500,000.

▲ **Ont., Toronto**—SCHOOL—Toronto Bd. Educ., 155 College St., School Bd. Admin. Offices, 159-165 College St. $3,500,000.

COMMERCIAL BUILDINGS

Calif., Palmdale—DWELLINGS—American Builders, Glen Dutro, Palmdale, plans by Johnson & Engen, 5159 Cahuenga Blvd., North Hollywood, 163 dwellings, tracts 14487 & 19803, Wood, stucco, concrete slab, garages, $700,000.

Calif., Sunnyvale—BANK—Crocker Anglo Natl. Bank, 1 Sansome St., San Francisco, bank facing Sunnyvale Plaza Shopping Center. $400,000.

Conn., Bridgeport—HOSPITAL WING—St. Vincent's Hospital, 2820 Main St., plans by J. Gerald Phelan, 211 State St., 1 story, brick, North Wing addn. $345,000. Fletcher Thompson, Inc., 211 State St., consult. engr.

Conn., East Hartford—Y.M. and Y.W.C.A.—Greater Hartford Y.C.A. and Y.W.C.A., 315 Pearl St., Hartford, Conn., plans by Brewer & Austin, 1169 Main St., East Hartford, Y.M.C.A. and Y.W.C.A. bldgs. $344,000. CD 10/5/54.

Conn., Fairfield—HOUSES—Samp Mortar Lake Co., 425 Brookside Drive, bi-houses, Fairfield Woods Rd., $410,000.

Conn., Groton—INN—Knott Hotels Corp., 575 Madison Ave., New York, N. Y., plans by Saltonstall, Morton & Morton, 53 State St., Boston, Mass., 2 story, 60 unit, frame, brick veneer Groton Inn. $600,000.

Conn., Manchester—HOUSES—Jarvis Realty Co., 654 Center St., 44 addnl. houses, Brent Rd., Woodhill Heights. $750,200.

▲ **Conn., Manchester**—HOUSES—Jerome C. Kelter, Jr., 1007 Farmington Ave., West Hartford, 81 houses, Bridge St., Birchwood Park. $1,598,940.

Conn., Middletown—HOSPITAL—Middlesex Memorial Hospital, 28 Crescent St., plans by James H. Ritchie & Assoc., 135 Clarendon St., Boston, Mass., hospital addn., alterations, Crescent St. $350,000. Constr. 1957. CD 12/1/47.

▲ **Conn., New Haven**—OFFICE—Southern New England Telephone Co., 227 Church St., plans by Douglas Orr, 111 Whitney Ave., 9 story 150x300 ft., glass, limestone, metal office bldg., air-conditioned, College St. Exten. $10,000,000. Meyer, Strong & Jones, 101 Park Ave., New York, N. Y., consult. engrs.-Henry A. Pfisterer, 111 Whitney Ave., engr. (Correction—consult. engineers). CD 10/5.

▲ **Conn., New London**—OFFICE, etc.—Southern New England Telephone Co., 227 Church St., New Haven, 6 story office and operations bldg., Washington St. $2,000,000.

Conn., Stamford—APARTMENT—J. Michael Cantore, et als, 1172 Bedford St., plans by Massari & Raymond, 65 South St., 7 story air conditioned, 50 apartment bldg., Hoyt St. $350,000.

Conn., Vernon—HOUSES—Gaston Realty Co., 165 School St., Manchester, 65 houses, Overbrook Heights, Sunset Dr. $751,200.

Conn., West Hartford—Y.M. and Y.W.C.A.—Greater Hartford, Y.M.C.A. and Y.W.C.A., 315 Pearl St., Hartford, plans by Brewer & Austin, 1160 Main St., East Hartford, Y.M.C.A. and Y.W.C.A. bldgs. $344,000. CD 1/5/55.

▲ **Ill., Chicago**—APARTMENT—University of Chicago, Midway and Woodlawn Sts., 8 story, 79 unit apartment, Drexel Ave. $1,100,000.

Ill., Elmhurst—Y.M.C.A.—Young Mens Christion Assn., Chicago, 19 S. LaSalle St., Chicago, 1 and 2 story brick Elmhurst Y.M.C.A. and Gym, 1st St. between Maple and Elm St. $810,000. CD 12/21.

▲ **Ill., River Forest**—RESIDENCE HALL, etc.—Rosary College, 7900 Division St., plans by Naess & Murphy, 80 E. Jackson Blvd. Chicago, (a) new residence hall (b) Library addn., (c) chapel, $2,450,000; 2 story, brick, steel, science bldg. addn., 7900 Division St., $550,000. CD 3/13.

Iowa, Sioux City—HOME FOR AGED—Lutheran Synod of Iowa, South Dakota and Nebraska, Sioux City, c/o Wm. Beauttler, 522 14th St., Martin Luther Home for Aged in Morningside Addn. $400,000.

La., New Orleans—OFFICE—Metairie Lodge 444, Free & Accepted Masons, 624 Lowerline St., plans by Paul G. Charbonnet, 624 Lowerline St., 2 story office and store bldg., 38th St. and Causeway Blvd. $350,000.

Me., Bath—HOSPITAL—Bath Memorial Hospital, 23 Winship St., plans by James H. Ritchie & Assoc., 135 Clarendon St., Boston, Mass., hospital addn, alterations. $350,000.

Mass., Boston—DORMITORY—Emmanuel College, 400 Fenway, plans by Maginnis & Walsh & Kennedy, 126 Newbury St., dormitory addn. $350,000. 1957 Constr.

Mass., Danvers—CONVENT—Carmelite Nuns, c/o RC Archdiocese, Boston, Chancery Office, 1 Lake St., Brighton, plans by Maginnis & Walsh & Kennedy, 126 Newbury St., Boston, convent. $350,000.

Mass., Norwood—SHOPPING CENTER—Owner, c/o Herman L. Feer & William E. Nast, archts., 27 School St., Boston, shopping center, Nathantan St., supermarket and other stores. $360,000.

Mass., Worcester—OFFICE—Massachusetts Protective Assoc., Inc., 18 Chestnut St., plans by Cram & Ferguson, 248 Boylston St., Boston, office bldg. addn., alterations Chestnut St. $350,000.

▲ **Mich., Ann Arbor**—Y BLDG.—Young Men & Young Women Christian Assn., Mrs. James W. Parker, pres., 343 S. Fourth Ave., Y bldg., two groups in single bldg. $1,500,000.

Minn., Worthington—HOSPITAL, etc.—Owner, c/o Frank Balzer, pres., Mountain Lake, crippled childrens hospital, school. $400,000.

Mo., Marshfield—POST OFFICE—General Services Admin. Public Bldgs. Service, 2306 E. Bannister Rd., Kansas City, 14, plans by Richard P. Stahl, 539 S. National St., Springfield, post office on lease purchase basis, $329,000-$530,000. CD 5/23, under Public Buildings.

N. J., Somers Point—SHOPPING CENTER—James S. Scully, 6718 N. Broad St., and Frank T. Barbera, 4801 Filmore Terrace, both Phila., Pa., plans by Bellante & Clauss, 1810 Rittenhouse Square, Phila., Pa., shopping center, U. S. Rte. 9 and Bethel Rd. $750,000.

N. Y., Brooklyn—APARTMENT, etc.—Plymouth Leasing Corp., 97-27 64 Rd., Regs Park, plans by George G. Miller, 125 W. 45 St., New York, Zone 19, 6 story 44 family, apartment, 18-car garage, 410 Ave. X. $400,000.

▲ **N. Y., Hamels**—APARTMENTS, etc.—New York City Committee on Slum Clearance, c/o Triboro Bridge Auth., Randalls Island, plans by Chapman, Evans & Delehanty, 50 Broadway, New York, and Skidmore, Owings & Merrill, consulting and coordinating archts.-engrs., 575 Madison Ave., New York, 28 apartments, shopping center, garage, parking lots, playgrounds and parks, Beach Blvd., Shore Front Parkway, Beach 74th to 90 Sts., Title 1 Proj. $33,566,985.

▲ **N. Y., New York**—LIBRARY—Barnard College, Broadway and 119 St., plans by O'Connor & Kilham, 101 Park Ave., Zone 17, 5 story library and classroom bldg., Claremont Ave., 117 and 118 Sts. $1,800,000. CD 2/26/46.

N. Y., New York—SYNAGOGUE—Fifth Ave. Synagogue, 152 W. 42 St., Zone 36, plans by Percival Goodman, 40 E. 49 St., Zone 17, synagogue, 5-7 East 62 St. $400,000.

▲ **N. Y., New York**—OFFICE—360 Lexington Ave. Corp. & 125 E. 40 St. Corp., 250 W. 30 St., plans by Schuman & Lichtenstein, 369 Lexington Ave., office bldg., 354-60 Lexington Ave. $2,500,000.

▲ **N. Y., Rockaway**—HOUSES—New York City Committee on Slum Clearance, c/o Triboro Bridge Auth., Randalls Island, Zone 35, plans by Chapman, Evans & Delehanty, 50 Broadway, New York, Zone 4, and Skidmore, Owings & Merrill, consult. archts.-engrs., 575 Madison Ave., New York, Zone 22, Seaside Rockaway Houses, Title I Proj., twenty 8 story apartment bldgs., 1,500 units, bounded by Beach 102 St., Shore Front Parkway, Beach 108 St. and Rockaway Beach Blvd. $23,000,000. CD 11/14.

N. D., Fargo—NURSES HOME—St. Luke's Hospital, 727 Broadway, student nurses home. $500,000. CD 2/28/46.

N. D., Grand Forks—STUDENT UNION—Student Union Corp., c/o University of North Dakota, Grand Forks, plans by Grosz & Anderson, 314½ DeMers Ave., student union bldg. addn. $350,000.

N. D., Kenmare—HOSPITAL—Deaconess Hospital, Kenmare, hospital. $413,000.

N. D., Minot—SCHOOL—St. Leo's Parish & Little Flower Parish, Minot, plans by I. L. Rush, Jr., Minot, Catholic high school. $375,000. CD 4/28/55.

▲ **Okla., Oklahoma City**—BUILDING ADDN.—Oklahoma Gas & Electric Co., 321 N. Harvey St., plans by Sorey, Hill & Sorey, 809 N.W. 36 St., 6 story addn. to Oklahoma Gas & Electric Bldg., 3rd and Harvey Sts. $1,000,000.

Pa., Bristol—MOTEL, etc.—Bristol Motel, Inc., c/o Stanley Slote, 61 Broadway, New York, N. Y., motel, pool and parking area. $510,000.

Pa., Mount Lebanon—HOSPITAL—St. Clair Memorial Hospital, Mount Lebanon, plans by Kuhn & Newcomer, 470 Washington Rd., 3 story, bsmnt., brick, block steel frame hospital addn. $500,000.

▲ **Pa., Wilkinsburg**—HOSPITAL—Columbia Hospital, 312 Pa. Ave., plans by Prack & Prack, 119 Federal St., N.S., Pittsburgh, 5 story brick, stone, steel hospital addn. $1,500,000.

▲ **S. C., Charleston Heights**—SHOPPING CENTER—Pinehaven Shopping Center, Box 2098, Charleston, shopping center. $2,000,000.

Tex., Amarillo—OFFICE—Nunn Estates, c/o Lindsey Nunn, Nunn Bldg., plans by Robert E. Huckee, Johnson Bldg., 5 upper floors office, $650,000; 3-level auto parking garage, 2 floors and bsmnt., concrete fdn. sufficient for 8 story bldg., $225,000. CD 11/7/55.

Tex., Beaumont—HOME—Schlesinger's Home for Aged, Beaumont, 225 persons Home for the Aged, 8.6 acre tract south of here. $495,000.

Tex., Corpus Christi—OFFICE—Smith Office Bldg, c/o Mayor Farrell D. Smith, City Hall, reconstr. and expansion of fire damaged Jones Office Bldg. $350,000.

Tex., Dallas—DWELLINGS—Lee Constr. Co., 8505 Lockhaven St., 26 dwellings. $368,500.

Tex., Houston—DWELLINGS—J. M. Arrington, Contractor, 3814 Juniper St., 18 dwellings, $345,000; 24 dwellings, $365,000, in new section Meadowbrook Freeway.

▲ **Tex., Houston**—OFFICE, etc.—Southern Enterprises, Inc., San Jacinto Bldg., plans by Herman A. Helling, 3373 Westheimer St., 27 story office, $10,000,000; 10 story hotel-motel, $5,000,000. James Howard & Assocs., 4101 San Jacinto St., consult. engrs. CD 11/12.

Tex., Lockhart—HOME—Board of Hospitals & Homes for the Methodist Congregation, c/o Tom Brabham, 108 W. White St., San Antonio, Golden Age Home. $360,000.

Tex., Midland—Y.M.C.A. BLDG.—Young Men's Christian Assn., Midland, plans by C. E. McBurney & Henry Meadows, 1704 W. Storey St., Y.M.C.A. bldg. $800,000. CD 5/2.

▲ **Tex., San Antonio**—CHURCH CENTER—H. B. Zachry Properties, Inc., Box 10188, multi-church center, 22-acre tract in Castle Hills at N. Military Dr. and Loop 13. $500,000 per unit.

Tex., Seguin—DORMITORIES—Texas Lutheran College, plans by Fehr & Granger, 502 E. 5th St., Austin, Dormitory No. 1, $350,000; Dormitory No. 2, $375,000. Blum & Guerrero, 1111 Neches St., Austin, and Wilson & Cottingham, Brown Bldg., Austin, consult. engrs. CD 11/8.

Vt., Colchester—NURSING HOME—R. C. Diocese of Burlington, Burlington, plans by Julian W. Goodrich, 930 Shelburne Rd., nursing home for the aged in grounds of Fanny Allen Hospital, $500,000. Bids after 1/1/57. CD 2/17/54.

Vt., Montpelier—HOME—National Life Insurance Co., 131 State St., Boston, Mass., plans by Cram & Ferguson, 248 Boylston St., Boston, Mass., home office bldg. $350,000.

▲ **W. Va., Huntington**—SHOPPING CENTER—Wiles-Morrison Co., 431 10th St., shopping center 4 mi. West of Barboursville on U. S. Rte. 60, to be known as Eastern Heights. $2,000,000.

▲ **W. Va., South Charleston**—OFFICE—Carbide & Carbon Chemical Corp., 30 E. 42 St., New York, N. Y., plans by Fellheimer & Wagner, 155 E. 42 St., New York, N. Y. 4 story office bldg. $2,000,000.

Wis., Middleton—CHURCH—St. Barnard's Catholic Cong., 2450 Atwood Ave., plans by John J. Flad & Asssoc., archts-engrs., 2525 University Ave., Madison, church. $400,000.

Ont., Toronto—OFFICE—Algor Investment Co., 568 Exmouth St., Sarnia, 5 story, 50,000 sq. ft. office, 1286-98 Yonge St. $350,000.

▲ **Ont., Toronto**—APARTMENT—Canterbury Gardens Ltd., 347 Bay St., will not construct 10 story APARTMENT, bsmnt. parking, Jarvis St., north of Gerrard St. E. $1,144,000. Project abandoned. CD 8/3.

Ont., Toronto—APARTMENT—"20 Spadina Rd., Ltd." c/o M. M. Pulver, archt., 1999A Ave. Rd., 10 story, 82 suite apartment, penthouse, underground parking, masonry, steel, rein.-con., 68-70-72 Spadina Rd. and Kendal Ave. $656,000.

INDUSTRIAL BUILDINGS

▲ **Calif., San Bernardino**—GENERATING PLANT—California Electric Power Co., 3771 8 St., Riverside, second unit 60,000 kw steam generating plant. $9,000,000. CD 11/21/55.

▲ **Calif., San Francisco**—GARAGE—Owner, c/o John J. Gowld & Henry J. DeGenkolb, engrs., 149 California St., 2 story, bsmnt., rein.-con. parking garage, 5th and Mission St. $1,500,000. CD 2/27.

Conn., New Haven—WAREHOUSE—Columbia Lumber Co., 418 Columbus Ave., one roof, 45,000 sq. ft. warehouse, Boulevard. $450,000.

▲ **Del., Wilmington**—TECHNICAL CENTER—Atlas Powder Co., New Murphy Rd. and Concord Creek, plans by The H. K. Ferguson Co., 1783 E. 11 St., Cleveland, O., technical center near general offices at Concord Pike and New Murphy Rd. $3,000,000.

Ill., Chicago—MILL—Cook Chocolate Co., 4825 S. Rockwell St., plans by Loewenberg & Loewenberg, 111 W. Monroe St., 20,000 sq. ft. cocoa processing mill adjacent to present location. $175,000.

Ill., Chicago—WAREHOUSE—General Mills, Inc., 400 2nd Ave. S., Minneapolis, Minn., 1 story, part bsmt., 80,000 sq. ft. warehouse, 104th St. and Calumet River. $500,000.

▲ Ky., Winchester—PLANT—Bundy Tubing Co., 8109 E. Jefferson St., Detroit, Mich., plans by Smith-Hinchman & Grylls, Inc., 243 W. Congress St., Detroit, Zone 36, metal products plant, near here, $1,000,000. CD 11/15.

Md., Timonium—INDUSTRIAL—The Hoover Co., North Canton, O., masonry industrial bldg., Timonium Rd. and Expressway. $413,689.

Minn., Minneapolis—GARAGE—Warren Cadillac, Inc., 700 Wayzata Blvd., 2 story, 56x135 ft. garage bldg. addn. at site. $100,000. Ellerbe & Co., E. 505 1st Natl. Bank Bldg, St. Paul, consult. engrs.

N. J., Erlton—GARAGE, etc.—Owner, c/o Gox & Guttman, archts., 709 Market St., Camden, garage and office, $100,000.

N. J., Mount Holly—AUTO SALES SHOWROOM—Lester Stewart, Rte. 38, plans by Petty & Croft, Moorestown, auto sales showroom and shop. $100,000.

N. J., Paulsboro—LABORATORY—Socony Mobil Oil Co., Paulsboro, plans by Arthur E. Davis, Jr. company archt., mechanical laboratory bldg. addn. $500,000.

N. J., Reading Twp. (Whitehouse P. O.)—PLANT—Mohawk Manufacturing Corp., Stanhope, mfg. plant on 9-acre tract, Ridge Rd., Whitehouse Station. $100,000.

N. J., Vineland—SHOP—Strauss Bros., Vineland, plans by John A. Fletcher, 111 Landis Ave., tire recapping shop and office. $100,000. CD 8/8/49.

N. Y., New York—ENGINEERING CENTER—United Engineering Trustees, Inc., 20 W. 39 St., Zone 18, plans by Shreve, Lamb & Harmon Associates, 11 E. 44 St., for preliminary plans and studies, engineering center, Mid-Manhattan. Site not selected, $500,000.

O., Bowling Green—PLANT—Lincoln-Schlueter Floor Machinery Co., 1250 W. Van Buren St., Chicago, Ill., plant to mfg. portable electric tools and floor surfacing and maintenance tools, $250,000. Work to start early in 1957.

O., Sandusky—PLANT—Sandusky Dressed Beef Co., G. Howard Waldock, pres., Neilson Ave., expansion existing facilities for processing of beef. $250,000.

Pa., Carnegie—PLANT—Vimco Macaroni Products Co., Carnegie, plans by Geo. Simons, 6304 Penn Ave., Pittsburgh, 1 story, brick, steel canning plant addn., $100,000.

Pa., Gulph Mills—MANUFACTURING AND LABORATORY—Smith Kline & French Laboratories, 1530 Spring Garden St., Phila., mfg. and laboratory. $750,000. Bids late 1956 or early 1957.

Tex., Austin—MOTOR—Simmons Motor Co., 12th and Lamar Sts., auto agency motor bldg. $150,000.

▲ Tex., Corpus Christi—INDUSTRIAL—Corpus Christi Industrial Property, Inc., c/o L. H. Groos, 128 Mesquite St., industrial bldgs., incl. water, sewers, storm sewers, roads and railway tracks. $1,000,000.

▲ Tex., El Paso—FACTORY—Tempron Corp., c/o Joseph B. Graves, P. O. Box 44, hardboard mfg. factory, 640 acre site northeast of city. $1,000,000. Taylor Corp., 47 Beaver St., New York 4, N. Y., engr. CD 12/2.

Tex., Grand Prairie—FACTORY—Erlanger Dress Mfg. Co., 16,000 sq. ft. masonry factory, $125,000.

Tex., Houston—PLANT—Reynolds & Reynolds Printing Co., 5008 Alameda St., printing plant, 2 acre tract in Brook Hollow Industrial Dist. $300,000.

Tex., Houston—AUTO PARKING—Southern Enterprises, Inc., c/o San Jacinto Bldg., 3 to 4 story auto parking facilities. $400,000. Jas Howard & Assoc., 4101 San Jacinto Bldg., consult. engr. CD 11/14.

Wis., Cudahy—FACTORY—Milwaukee Crane & Sewer Co., 3271 E. Von Norman Ave., plans by Worden Allen Co., 240 W. Capitol Dr., Milwaukee, 1 story, 80x400 ft. factory addn. $300,000.

▲ Wis., Oak Creek—PLANT—Louis Allis Co., 427 E. Stewart St., Milwaukee, plans by Burns & Roe, 2740 Book Bldg., Detroit, Mich., 250,000 sq. ft. motor plant. $2,000,000. L. E. Miergwa, c/o owner, engr. CD 7/3.

▲ Alta., Edmonton—GARAGE—Hudson's Bay Co., Jasper Ave., Head Office, 79 Main St., Winnipeg, Man., plans by National Garages, Inc., 1009 Cass St., Detroit, Mich., U. S. A., 6 story bsmnt., 100x320 ft., rein.-con. 600-car parking garage, 163rd St. south of Jasper Ave. $1,000,000. CD 9/26.

Que., Chapais (Opemiska)—MINE—Opemiska Copper Mines (Quebec) Ltd., 25 King St. W., Toronto, Ont., reconstr. mine bldgs. following fire, No. 1 headframe, shafthouse and crusher house, mine property, Levy Twp. $200,000.

UNCLASSIFIED

Calif., San Francisco—PARK—City & San Francisco Co., Dpt. P. Wks., c/o Director, City Hall, park development (bridle paths and recreation spots) across Golden Gate Park to Twin Peaks, $128,500. CD 11/13/47.

Florida—POWER LINES, etc.—Suwannee Valley Electric Co-operative, Inc., Live Oak, power lines, irrigation facilities, Live Oak, $100,000.

Ill., Chicago—PARKING LOTS—City, City Hall, 9 parking lots, South of 47th Sts. $350,000. Plumb, Tuckett & Pickarsky, 25 W. Jackson Blvd., consult. engr.

▲ Ill., Chicago—STREET LIGHTS—City, Div. Streets & Sanitation, Lloyd N. Johns, comr., City Hall, voted bonds Nov. 6, new street lights, $10,000,000. CD 9/13.

▲ Ill., Evanston—PARKS—City, City Hall, voted $1,200,000. bonds, parks.

▲ Ind., East Chicago—PARKING LOT, OVERPASS—Inland Steel Co., 38 S. Dearborn St., Chicago, Ill., overpass and parking lot, Michigan and Cline Aves. $3,000,000. Metropolitan Planners, Inc., Bd. of Trade Bldg., Indianapolis, consult. engr. CD 11/11/55, under Industrial Buildings.

Mich., Owosso—SWIMMING POOL—City, George Van Epps, clk., municipal swimming pool. $150,000. Walter Bennett, Owosso, city engr. CD 4/15/54.

Minn., Bloomington (P. O. Minneapolis)—PARKS—Village, F. Laska, engr., voted $600,000 bonds Nov. 6 for 5 year program to incl. imprvs. at 6 parks and two school playgrounds. CD 10/8.

Mo., Northwoods (St. Louis 21 P.O.)—SWIMMING POOL, etc.—City, R. E. Burgess, clk. City Hall, 4600 Oak Ridge, $125,000 bond election Nov. 28, swimming pool and other park imprvs. CD 9/10.

O., Avon Lake—SWIMMING POOL, RECREATION CENTER—Village of Avon Lake, Village Hall, defeated bonds Nov. 6, recreation center and swimming pool, $500,000. Mellenbrook, Foley & Scott, Berea, archts. CD 7/19.

O., Lancaster—COLISEUM—Fairfield Co. Courthouse, defeated $900,000 bonds, Nov. 6, 2 story coliseum adjacent to Fairfield Co. fairgrounds. CD 6/19.

O., Sandusky—SWIMMING POOL—Perkins Local School Dist., Sandusky, defeated bonds Nov. 6, swimming pool. $110,000. CD 8/7.

O., Toledo—STADIUM—Lucas Co. Bd. Educ., Court House, defeated tax levy Nov. 6, stadium. $900,000. CD 10/16.

Okla., Tulsa—TRAFFIC CONTROL—City, City Hall, bond election Dec. 11, traffic control facilities. $250,000. W. R. Wooten, city engr. CD 11/22/55.

South Dakota—RURAL DISTRIBUTION LINES—Intercounty Electric Assn., Mitchell, 50 mi. rural distr. lines, 27 mi. tie lines and sys. imprvs., Sanborn Co. $800,000. Buell & Winter Engineers, 513 Insurance Exchange Bldg., Sioux City, Iowa, consult. ngrs. CD 11/12.

Texas—RURAL POLE TELEPHONE LINES—Garrison Telephone Co., West Columbia, rural pole telephone lines and sys. imprvs., West Columbia, $364,000.

▲ Texas—RURAL DISTRIBUTION LINES, etc.—Houston Lighting & Power Co., 1016 Walker St., Houston, 1,200 mi. electric distr. lines, $18,000,000; 381 mi. 132,000-volt power lines, $8,000,000; 118 mi. 66,000 volt power lines, $3,500,000, in Houston and adjacent areas. CD 5/24/48.

▲ Texas—OIL PIPE LINE—Humble Pipe Line Co., 1216 Main St., Houston, 94 mi. 18 in. crude oil pipe line from near Odessa to Kemper Co. $2,820,000.

Tex., Houston—SWIMMING POOL—Southern Enterprises, Inc., c/o San Jacinto Bldg., rein.-con. swimming pool for hotel-motel area. $125,000. running gas, water, sewer lines. $75,000. 20 acres near Gulfgate Shopping City.

Tex., Baytown—RAILWAY LINE—Southern Pacific Lines (in Texas and Louisiana) Texas & New Orleans R.R. Co., L. A. Loggins, ch. engr., Southern Pacific Bldg., Houston, Zone 1, 8 mi. railway line from Baytown to Baytown branch line of Ry. Co. $400,000.

Tex., Dallas—GOLF COURSE—City, Park Dpt., City Hall, 18-hole golf course, for Tension Park, $110,000. Ralph Plummer, 10330 Kilkinney Pl., consult. engr. CD 2/8.

Tex., Houston—SWIMMING POOL, etc.—Southern Enterprises, Inc., c/o San Jacinto Bldg., swimming pool, hotel and motel, $125,000; running gas, water, sewer lines, $75,000. Jas. Howard & Assoc., 4101 San Jacinto Bldg., consult. engrs. CD 11/14.

Tex., Mesquite—GAS LINES—Big Town Co., c/o Wes Fenton, 1006 Davis Bldg., Dallas, plans by Tatum & Quade, 2812 Fairmount St., Dallas, natural gas lines, $75,000; area lighting, $85,000. Shrewsbury-Tharaldson Assoc., 216 S. Central St., Glendale, Calif., designers. CD 10/24.

Wash., Auburn—SWIMMING POOL—City, City Hall, voted $150,000 bonds Nov. 6, swimming pool. CD 9/6.

Wash., Chehalis—SWIMMING POOL—City, City Hall, voted bonds Nov. 6, swimming pool. $125,000. CD 9/13.

▲ Wash., Ephrata—GAS DISTRIBUTION SYSTEM—City, City Hall, voted $560,000 bonds Nov. 6, natural gas distr. sys. $1,350,000. Carey & Kramer, 1917 1 Ave., Seattle, Zone 1, consult. engrs. CD 9/28.

▲ Wash., Longview—WAREHOUSE—Port of Longview, Longview, voted bonds Nov. 6, 60,000 sq. ft. addnl. warehouse space and 600 addnl. ft. berthing for vessels, $1,500,000. CD 11/17/55 and CD 9/19, under Public Buildings.

Wash., Prosser—SWIMMING POOL—City, City Hall, voted $100,000 bonds Nov. 6, swimming pool (Correction—status). CD 11/14.

Wash., Tacoma—STADIUM BOWL—School Bd., S. 8 and Tacoma Sts., defeated bonds Nov. 6, repairing and remodeling stadium bowl. $500,000. CD 10/5.

Wisconsin—ELECTRIC DISTRIBUTION LINES—St. Croix Co. Elec. Co-operative, Baldwin, 24 mi. electric distr. lines and sys. imprvs., St. Croix Co. $470,000. CD 7/26/51.

▲ Wis., Milwaukee—MARINA, etc.—Milwaukee County Park Comn., Court House, marina at Lake Michigan, $2,000,000; auto parking extra slips and roads, $2,000,000. Ralph H. Burke, Inc., 20 N. Wacker Dr., Chicago, Ill., consult. engr. CD 1/28/55.

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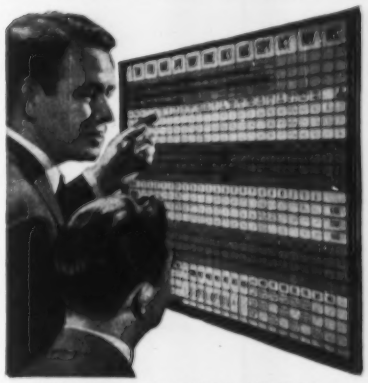

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NEW ENGLAND

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

December 6 Rhode Island

STREETS AND ROADS

December 4 Massachusetts December 10 Connecticut

† **Mass., Chicopee Falls**—SITE WORK—BA On Or About 12/12—U. S. Eng., 150 Causeway St., Boston, Zone 14, site work for dormitories and mess hall, relocation of Johnson Rd. and Rose Dr., constr. utilities, '57, Westover Air Force Base, ENG-19-016-57-103. $300,000-$400,000. Plans deposit $20.

† **Mass., Lincoln**—SCIENCE and LABORATORY—BA 12/18—U. S. Eng., 150 Causeway St., Boston, science and laboratory wing, Air Force Cambridge Research Center, ENG-19-016-57-93. $800,000-$900,000. Plans deposit $25, refundable. Shepley, Bulfinch, Richardson & Abbott, 1 Court St., Boston, archts. CD 11/20.

HEAVY CONSTRUCTION—LB & CA

† **Wexler Constr. Co.**, 118 Needham St., Newton Highlands, Mass. CA **$671,000**, est. $600,000-$700,000. airmen's dormitories, Dow Air Force Base, ENG-19-016-57-49, BANGOR, ME. U. S. Eng., 150 Causeway St., Boston, Mass. CD 10/30, under LB.

BUILDINGS—LB & CA

R. S. Noonan, Inc., North Duke St., York, Pa. CA Est. Approx. **$500,000**. DRAMATIC and SPEECH CENTER, Porter Field Road Site, MIDDLEBURY, VT. Middlebury College, Middlebury, Vt. McKim, Mead & White, 101 Park Ave., New York, N. Y., archts. Severud-Elsted & Krueger, 415 Lexington Ave., New York, N. Y., structural engrs.

George B. Macomber Co., 25 Fordham Rd., Boston, Mass. CA **$502,000**. CHURCH, Church St. and 474 Center St., NEWTON, MASS. Eliot Congregational Church, Rev. Ray A. Eusden, pastor, Henry C. Jones, Jr., chn. Bldg. Comm., 34 Ruthven Rd., Newton, Mass. Bids Oct. 30. CD 10/19.

Arthur E. Webster, 64 Woodbine Court, Berlin, Conn. CA, **$500,000**. 50 HOUSES, Worthington Ridge, BERLIN, CONN. Closson & Closson, 3 Woodbine Court, Berlin, Conn. Awarded Nov. 16.

▲ **Arthur E. Webster**, 64 Woodbine Court, Berlin, Conn. CA, **$1,000,000**. SHOPPING CENTER, 100-acre tract Worthington Ridge, Supermarket, etc., BERLIN, CONN. Closson & Closson, 3 Woodbine Court, Berlin, Conn. Awarded Nov. 16.

MIDDLE ATLANTIC

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

December 4 Maryland

BUILDINGS—BA

Del., Wilmington—SCHOOL—BA 12/5—Dunleith Community School Bldg., Millside, Wilmington, and Delaware State Dpt. Educ., Dover, Dunleith Community School addn. $491,000. W. Ellis Preston, 903 Jefferson St., engr.-archt. CD 10/24.

▲ **Pa., Phila.**—MANUFACTURING, etc.—BA 12/6—United States Rubber Co., Cottman and Keystone Sts., 1 story, brick, 45,000 sq. ft. mfg. and warehouse, $1,000,000. E. G. Johnsonbaugh, ch. engr. CD 10/7/55.

▲ **Del., Newark**—DORMITORIES, etc.—BA 12/18—University of Delaware, Newark, 4 dormitories, $2,500,000, McKim, Mead & White, 101 Park Ave., archts., Severud-Elstad & Krueger, 415 Lexington Ave., engrs., both New York, N. Y. CD 10/5; dining hall, student union bldg., $1,500,000. Trautwein & Howard, 1411 Walnut St., Phila., Pa., archts., Frank N. Keas, 504 Woodland Terrace, Phila., Pa., engrs. CD 2/24.

HEAVY CONSTRUCTION—LB & CA

▲ **Delma Engineering Corp.**, 1208 Wyatt St., New York 60, N. Y. LB **$1,112,895**. (7 bidders) demolition, excav. foundations for Third Avenue Sub-station Contr. No. P-174, BROOKLYN, N. Y. New York City Transit Auth., 370 Jay St., Brooklyn 1, N. Y. Bids Nov. 9. CD 10/10.

Petracca & Sons, Inc., 175-14 147 Ave., Jamaica, N. Y. LB **$120,367**. playground north of N. Hempstead Turnpike, opposite 160 St., Kissena Park, Queens Boro, Contr. Q-24-156, FLUSHING, N. Y. Comr. Parks, Dpt. Parks, Arsenal Bldg., Central Park, 64 St. and Fifth Ave., New York 21, N. Y. Bids Nov. 14. CD 11/2.

Forest Co., 121 N. Main St., Wharton, N. J. LB **$465,959**. Contr. 4, sewers, POUGHKEEPSIE, N. Y. Arlington Sewer Dist., Town of Poughkeepsie, Dutchess Co., Poughkeepsie, N. Y. Bids Nov. 7. CD 9/26.

▲† **Atlantic Gulf & Pacific Co.**, 15 Park Row, New York, N. Y. LB **$3,476,794**. dredging Delaware River, approx. 3,183,000 cu. yd., Bucks Co., ENG-36-109-57-16, PENNSYLVANIA. U. S. Eng., 2635 Abbottsford Rd., Phila., Pa. Bids Nov. 16. CD 10/31, under LB.

▲ **Glasgow, Inc.**, Glenside, Pa. LB **$1,673,525**. sewers, grading, various locations, Bid 2700, PHILA., PA. City, Dpt. Procurement, City Hall Annex, Phila., Pa. Bids Nov. 9. CD 10/24.

MARYLAND—State Rds. Comn., 108 E. Lexington St., Baltimore, Zone 2,

T. Edgie Russell, Hamilton Ave., Frederick, Md. and **W. E. Graham & Sons**, Box 268, Cleveland, N. C. CA **$623,117**. surf. 2.95 mi. dual hy. Frederick By-Pass Contr. F 490-5-720, Frederick Co. CD 10/23, under LB.

BUILDINGS—LB & CA

John J. Harvey, Inc., 495 French Rd., Utica, N. Y. LB **$252,947**. (4 bidders) ARMY TRAINING CENTER, OGDENSBURG, N. Y. U. S. Eng., 111 E. 16 St., New York 3, N. Y. Bids Nov. 14. CD 9/28.

▲ **Kretzer Constr. Co., Inc.**, 32-15 Lawrence St., Flushing, N. Y. CA Est. **$2,000,000**. design and construct FACTORY and OFFICE on 28 acre tract at High Ave. near Rte. 9, WEST NYACK, N. Y. Grant Pulley & Hardware Corp., 31-85 Whitestone Parkway, Flushing, N. Y.

S. Yeffin & Son, 22 N. 11 St., Phila., Pa., CA **$650,000**. 1 story prestressed concrete girder, 150x400 ft., WAREHOUSE and OFFICE BLDG., site imprvs., WEST ATLANTIC CITY, N. J. Spencer Gifts, Inc., 117 N. Ohio Ave., Atlantic City, N. J. Roy E. Anderson, Pleasantville, N. J., archt.-engr. Bids Aug. 20. (Correction-contractor). CD 9/11, under CA.

▲ **Ramon Tublitz**, 75 South Orange Ave., South Orange, N. J., Owner Builds. **$2,000,000**. 120 HOUSES, off W. 9 St., to be known as Cedarcroft, PLAINFIELD, N. J.

Beth Israel Congregation, 7 and Elmer Sts., Vineland, N. J., rejected bids Oct. 10, general contract SYNAGOGUE, VINELAND, N. J., LB **$537,390**. CD 11/9, under LB.

Reisinger Bros., North Bedford St., Carlisle, Pa. CA **$647,825**. general constr. Swatara JUNIOR HIGH SCHOOL, Oberlin, PENBROOK, PA. Central Dauphin Joint School Auth., 2323 Hoffer St., Penbrook, Pa. W. L. Murray, 1600 N. Second St., Harrisburg, Pa., archt. Awarded Nov. 15.

H. B. Alexander & Son, 315 Vaughn St., Harrisburg, Pa. CA **$623,237**. general constr. Lower Paxton JUNIOR HIGH SCHOOL addns., imprvs., Charlton, PENBROOK, PA. Central Dauphin Joint School Auth., 2323 Hoffer St., Penbrook, Pa. W. L. Murray, 1600 N. Second St., Harrisburg, Pa., archt. Awarded Nov. 15.

▲ **Wark & Co.**, 1920 Samsom St., Phila., Pa. CA **$1,300,000**. OFFICE, CHAPEL, AUDITORIUM, parking lot, PHILA., PA. United Lutheran Church in America, 1228 Spruce St., Phila., Pa. Bids Nov. 9. CD 10/18.

▲ **Guthrie Bros.**, R. D. 1, Boothwyn, Pa. Separate Contracts. **$2,000,000**. RESIDENTIAL DEVELOPMENT, Marshallton Rd., WEST CHESTER, PA. Richard H. Reterman, West Chester, Pa., archt.

▲ **Terminal Constr. Co.**, State Hy. No. 17 and Moonarchie Ave., Wood-Ridge, N. J. LB **$7,621,743**. Lexington Terrace HOUSING, Proj. MD-2-19, BALTIMORE, MD. Baltimore Housing Auth., 709 E. Eager St., Baltimore 2, Md. Bids Nov. 20. CD 10/29.

John Tester & Son, Inc., Clinton, Md. CA **$647,217**. (9 bidders) CONVENT, SCHOOL, CHURCH AND HALL, Dunlap and Catskill Sts., HILLCREST HEIGHTS, MD. Archdiocese of Wash., 1719 Rhode Island Ave. N. W., Wash., D. C. Bids Oct. 25, awarded Nov. 15. CD 11/1, under LB.

Warthen & Ward, 10410 Montgomery Ave., Kensington, Md. LB **$520,000**. (4 bidders) Addn. No. 3 to Pooleseville JUNIOR SENIOR HIGH SCHOOL, Pooleseville, ROCKVILLE, MD. Montgomery Co. Bd. Educ., Rockville, Md. Bids Nov. 15. CD 10/17.

▲ **Leimbach Constr. Co.**, 3906 Hickory Ave., Baltimore 11, Md. CA **$3,696,350**. 2 story, masonry, concrete, steel Parkville SENIOR HIGH SCHOOL, Parkville, TOWSON, MD. Baltimore Co., Bd. Educ., Aigburth Rd., Towson, Md. CD 10/29, under LB.

Clute Brothers, Wyoming, Del., LB **$679,900**. 1 story, 140-bed brick, steel, concrete MEDICAL CENTER addn. to mental hospital, STOCKLEY, DEL. Delaware Hospital for the Mentally Retarded, Stockley, Del. Bids Nov. 13. CD 10/18.

SOUTH

HEAVY CONSTRUCTION—BA

† **Fla., Pensacola**—ELECTRICAL SERVICE—BA 12/11—Officer in Charge of Constr., Naval Air Basic Training Command, Bldg. 45, Naval Air Station, Pensacola, electrical service, Bldg. 600, U. S. Naval Air Station, NBy-7792, Spec. 7792/56. Plans deposit $10. CD 8/27.

La., Alexandria—BA 12/11—Gravity Drainage Dist. No. 1, Box 490, storm drainage imprvs., Proj. No. 1956-3. Plans deposit $10. Pan American Eng., 1022 Tenth St., Alexandria, engrs.

† **N. C., Edenton**—COLD STORAGE—BA 12/11—Dist. P. Wks. Office, Fifth Naval Dist., U. S. Naval Base, Norfolk 11, Va., rehabilitation cold storage bldg., Naval Auxiliary Air Station, NBy 3727, Spec. 3727/56. Plans deposit $25. CD 8/27.

† **Fla., Homestead**—MISCELLANEOUS ALTERATIONS, etc.—BA 12/12—U. S. Eng., Box 4970, Jacksonville, miscellaneous alterations and repairs, Homestead Air Force Base, ENG-08-123-57-20. Extended date. CD 11/8.

† **FLORIDA**—BA 12/13—Bureau P. Rds., at office Park Supt., Dpt. Commerce, Homestead,

Dade Co.—Proj. 1A7-3A1-11A1-11B1, processing oolite rock base, bit. prime coat and surf., seeding on Park Rd. from the Paradise Key Road to point about 11 mi. to west, and about 4 mi. of other roads, Everglades National Park, adv. ENR 11/29. CD 3/5.

† **Miss., Columbus**—DORMITORIES—BA 12/13—U. S. Eng., 2301 Grant St., Mobile, Ala., four 3 story, 40x200 ft. airmen's dormitories, Columbus Air Force Base, ENG-01-076-57-34. CD 11/7.

† **S. C., Myrtle Beach**—OFFICERS QUARTERS—BA 12/13—U. S. Eng., 31 Customhouse, Charleston, constr. officers quarters and officers dining room, Myrtle Beach Air Force Base, ENG-38-082-57-12. CD 11/8.

† **Ala., Mobile**—RUNWAYS, etc.—BA On Or About 12/18—U. S. Eng., 2301 Grant St., Mobile, Zone 7, widening and strengthening runways, taxiway and warm-up pad, Brookley Air Force Base, ENG-01-076-57-41. CD 8/22.

† **Fla., Panama City**—DEFENSE SYSTEM TRAINING—BA On Or About 12/20—U. S. Eng., 2301 Grant St., Mobile 7, Ala., air defense system training bldg., Tyndall Air Force Base, ENG-01-076-57-42. CD 10/1.

Ky., Fort Knox—SUPPORTING FACILITIES—BA 12/20—U. S. Eng., 830 W. Broadway, Louisville, supporting facilities, bit. surf. roads, concrete gutters, pipe culverts, sanitary sewers, c.i. force mains, water lines, gas lines for Capehart Housing, ENG-15-029-57-24. $100,000. CD 1/18, under Commercial Buildings.

† **Fla., Panama City**—BA On Or About 1/8—U. S. Eng. 2301 Grant St., Mobile 7, Ala., directional center transmitter system bldg., Tyndall Air Force Base, ENG-01-076-57-43. CD 10/1.

BUILDINGS—BA

Fla., Jensen Beach—NOVITIATE—BA 12/5—Diocese of St. Augustine, c/o Joseph P. Hurley, St. Augustine, Novitiate For Sisters of St. Joseph, 1 and 2 story, CB-S RIC and brick boiler room, 3 car garage, Sewells Point Rd. Watson & Deutschman, 409 Chamber of Commerce Bldg., Miama, archts.-engrs.

Fla., Miami—SCHOOL—BA 12/5—Dade Co. Bd. Pub. Instruc., Admin. Bldg., 275 N.W. 2 St., Brownsville Elementary School, N.W. 51 to 52 Sts. and N.W. 24 to 26 Aves. William E. Tschumy, 2346 Douglas Rd., Coral Gables, archt. CD 11/3/55.

La., Golden Meadow—CHURCH—BA 12/11—Fernand T. Picou, archt., Citizens Bank Bldg., Thibodaux, 1 story, 11,800 sq. ft., brick, steel church, for Our Lady of Prompt Succor, Rev. W. J. Breault, M.S., Golden Meadow, La.

▲ **Ky., Lexington**—HOSPITAL—BA 1/4—St. Joseph's Hospital, Sisters of Charity, 1701 Dixie Hy., Lookout Heights, 7 story, rein.-con., steel, brick hospital, Headley Rd. and Harrodsburg Pike, $4,000,000. Potter, Tyler, Martin & Roth, 128 E. Sixth St., Cincinnati, O., archts. Proctor-Ingels, 915 S. Limestone St., engrs. CD 6/15.

Fla., Miami—SCHOOL—BA 1/16—Dade Co. Bd. Instruction Admin. Bldg., N.W. 2 St., North Miami Beach Junior High School, N.E. 167 St. & 10 Ave., North Miami Beach, $600,000. Stewart & Skinner, 223 S.E. 1st St., archts. CD 11/3/55.

▲ **Fla., Miami**—SCHOOL—BA 3/6—Dade Co. Bd. Pub. Instruction, Administration Bldg., 275 N.W. 2 St., constr. Norland Senior High School, 1055 N.W. 193 St. $1,350,000. Irving Harsey, 9822 N.E. 2 Ave., Miami Shore Village, archt. CD 8/10.

HEAVY CONSTRUCTION—LB & CA

† **B & M Constr. Co.**, 2001 Fourth St., Meridian, Miss. CA **$331,250**. airmen's dining hall, Columbus Air Force Base, ENG-01-076-57-21, COLUMBUS, MISS. U. S. Eng., 2301 Grant St., Mobile, Ala. Bids Nov. 6. CD 10/17.

▲† **Whittenberg Constr. Co.**, 2214 S. Floyd St., Louisville, Ky. LB **$1,856,957**, est. $2,153,488. (10 bidders) addnl. facilities Air National Guard, Standiford Field, LOUISVILLE, KY. U. S. Eng., 830 W. Broadway, Louisville, Ky. Bids Nov. 20. CD 10/30.

▲ **TENNESSEE**—State Hy. Dpt., Nashville,

Tenn.—Forcum-Lannom, Dyersburg, Tenn., LB **$299,286**, grav. base, bit. material surf. 2.518 mi. State Rte. 5A, Proj. F-003-3-(3), Pt. I. Dyer Co.; LB **$553,458**, wid'n. and resurf. with grav. and bit. materials, constr. concrete curbs, parking lanes, sidewalks, storm sewer sys. 1.879 mi. State Rte. 43, Proj. F 005-3-(2), Gibson Co.; LB **$199,983**, grav. or chert surf., and bit. materials constr. two bridges 3.046 mi. State Rte. 14, Proj. F 014-2-(14), Shelby Co.;

Tenn.—Wesco Contg. Co., Airport Rd., Chattanooga, Tenn., LB **$160,493**, bit. materials resurf. 6.546 mi. State Rte. 134, Proj. SP-795-C, Hamilton and Marion Counties; LB **$289,938**, bit. materials surf. 5.474 mi. State Rte. 153, Proj. F 074-1-(4), Hamilton Co.;

Tenn.—Lehman-Roberts, 1098 Wilson St., Memphis, Tenn. LB **$81,313**, bit. materials resurf. 2.5 mi. State Rte. 3, Proj. SP-729-D, Shelby Co.; LB **$406,258**, bit. materials resurf. 16.876 mi. State Rte. 1, Proj. SP-1177-B, Shelby Co.;

Tenn.—John L. Brinkley, Shelbyville, Tenn., LB **$629,599**, crushed stone surf., bit. materials 9.071 mi. State Rte. 28, Proj. F-028-1-(12) Pt. I. Bledsoe and Cumberland Counties;; LB **$632,854**, crushed stone and bit. materials, paving, constr. two parallel concrete deck girder bridges, 1.819 mi. State Rte. 153, Proj. F-074-1-(3), Hamilton Co.;

Tenn.—Kingsport Paving Co., Kingsport, Tenn., LB **$198,989**, crushed stone surf. 6.232 mi. Secondary Rte. 2360, Proj. S-2360 (1), Hamblen Co.;

Tenn.—Interstate Constr. Co., Third Natl. Bank Bldg., Nashville, Tenn., LB **$420,878**, bit. materials resurf.

5.6 mi. State Rte. 11, Proj. No. SP-1146-B, Marshall Co.; and bit. materials resurf., 19.6 mi. State Rte. 50, Proj. SP-992-B, Lincoln and Marshall Counties.

Tenn.—**Inman Moss**, Sweetwater, Tenn., LB **$173,503**, crushed stone surf., constr. two concrete box type bridges 5.445 mi. Secondary Rte. 2497, Proj. S-2497-(1), Blount Co.;

Tenn.—**W. E. Graham**, Cleveland, N. C., LB **$789,791**, crushed stone and bit. materials surf., constr. four concrete box type bridges 5.393 mi. State Rte. 37, Proj. F-037-1-(4), Carter Co.;

Tenn.—**J. H. Hood**, Bell Buckle, Tenn., LB **$269,998**, crushed stone surf., 6.66 mi. Secondary Rte. 2476, Proj. S-2476-(1), Claiborne Co.;

Tenn.—**Malone Brothers**, Greenville, Tenn., LB **$232,898**, crushed stone surf., constr. one concrete box type bridge 5.556 mi. Secondary Rte. 2486, Proj. S-2486-(1), Cocke Co.;

Tenn.—**Pardue & Humphreys**, 2422 Devoy Ave., Memphis, Tenn., LB **$82,706**, grav. or chert and bit. materials surf. 1.135 mi. Secondary Rte. 8104, Proj. S-8104-(2), Shelby Co.;

Tenn.—**J. D. Lawson**, Knoxville, Tenn., LB **$87,401**, crushed stone surf., constr. two concrete box type bridges 2.589 mi. Secondary Rte. 2514, Proj. S-2514-(1), Sullivan Co.;

Tenn.—**Rogers Brothers**, Morristown, Tenn., LB **$117,444**, crushed stone surf., constr. one concrete box type bridge 2.715 mi. Secondary Rte. 2347, Proj. S-2347-(2), Union Co.;

Tenn.—**Charles B. Stephens Co.**, Morristown, Tenn., LB **$371,906**, crushed stone surf., constr. two concrete box type bridges and one concrete deck girder bridge 8.748 mi. Secondary Rte. 2494, Proj. No. S-2494-(1), Hawkins and Hancock Counties; and crushed stone surf. 0.537 mi. Secondary Rte. 2349, Proj. No. S-2349-(3), Hancock Co.;

Tenn.—**Flinn-McClanahan**, Centerville, Tenn., LB **$266,488**, grav. base, bit. materials surf., constr. one concrete box type bridge 3.781 mi. sect. Relocated State Rte. 15, Proj. No. F-015-2-(1), McNairy Co.;

Tenn.—**Cecil Morgan**, Clarksville, Tenn., LB **$487,119**, cement stabil. grav. or chert base, bit. materials surf. 9.351 mi. State Rte. 22, Proj. No. F-022-3-(3), Pt. 1, McNairy and Chester Counties;

Tenn.—**Unaka Paving Co.**, Johnson City, Tenn., LB **$329,406**, wid'n. and resurf. with crushed stone and bit. materials 2.817 mi. State Rte. 50, Proj. No. F-055-1-(3), Marshall Co.;

Tenn.—**H. W. Caldwell**, Ashland City, Tenn., LB **$84,396**, crushed stone surf. 4.995 mi. Secondary Rte. 6280, Proj. No. S-6280-(1), Robertson Co. Bids Nov. 16. CD 10/29.

† **W. L. Hailey & Co.**, Inc., 314 42 Ave. S., Nashville, Tenn. CA **$359,000**, est. $478,590 (9 bidders) Proj. I and Proj. II Clinch River make-up water sys., Oak Ridge Gaseous Diffusion Plant, Inv. No. 401-57-4A, OAK RIDGE, TENN. U. S. Atomic Energy Comn., Oak Ridge, Tenn. Bids Nov. 13. CD 10/15.

BUILDINGS—SLC

▲ **General Electric Co.**, 1 River Rd., Schenectady, N. Y., CA Total est. **$58,000,000**, turbine generator for 450,000 kw electric power generating unit at Philip Sporn Plant, GRAHAM STATION, W. VA. Appalachian Electric Power Co. and Ohio Power Co., 301 Cleveland Ave. S.W., Canton, O. A.G.E. Service Corp., 30 Church St., New York 8, N. Y., engrs.;
Babcock & Wilcox Co., 161 E. 42 St., New York 17, N. Y., CA 23 story boiler (Graham Station, W. Va.).

† **U. S. Eng.**, 308 Customhouse, Wilmington, N. C., cancelled bids to have been opened Dec. 18, TEST BUILDING No. 2, ENG-31-075-57-20, BURLINGTON, N. C. CD 11/12.

† **T. A. Loving & Co.**, Bank of Wayne Bldg., Goldsboro, N. C., LB **$671,550**, COMMUNITY CENTER, ENG-31-075-57-21, FORT BRAGG, N. C. U. S. Eng., 308 Customhouse, Wilmington, N. C. Bids Nov. 14. CD 10/5.

▲ **Campbell-Lowrie-Lautermilch Corp.**, 400 W. Madison St., Chicago, Ill. CA Est. **$1,000,000**, general contract 180,000 sq. ft. mfg. PLANT at intersection of Steadmantown Lane and U.S. 460 the Georgetown Rd., FRANKFORT, KY. Sessions Engineering Co., 1 N. LaSalle St., Chicago, Ill. CD 10/4; under CA.

Robert Struck & Sons, 920 Dandridge St., Louisville, Ky. LB **$350,000**, 2 story, bsmnt. Y.M.C.A. BLDG. addn., LOUISVILLE, KY. Young Men's Christian Assn., 231 W. Broadway, Louisville, Ky. Bids Nov. 13. CD 10/24.

MIDDLE WEST

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

December 5 Michigan December 6 Indiana
December 11 Wisconsin

STREETS AND ROADS

December 11, 12 Michigan December 11 Wisconsin

Mich., Livonia—SWIMMING POOL and SHOP—BA 12/11—Bd. Educ., Livonia Pub. Schools, Claude Snarey, secy., 15125 Farmington Rd., shop and swimming pool addn. to Bentley High School. Plans deposit $25, refundable. Eberle M. Smith Assoc., Inc., 153 E. Elizabeth St., Detroit, Zone 1, archt. CD 3/21; under Public Buildings.

Mich., Detroit—BA 12/12—City, Bd. Water Comrs., Oscar A. Wagner, pres., 735 Randolph St., Contr. SE-14, alterations to Springwells Station, low lift pumping station, demolition rein.-con. at elevation of 138 ft. 8 in. and constr. rein.-con. floor at elevation of 138 ft. 11 in. work incl. surge weirs, stairs, doors, elevator, quarry tile floors, etc. Plans deposit $25, refundable. G. Remus, ch. engr. CD 9/7/55.

BUILDINGS—BA

Mich., Inkster—SCHOOL—BA 12/12—Bd. Educ., Cherry Hill School Dist., Alex Solomon, secy., 27100 Avondale Ave., Inkster. Fred C. Fischer Elementary School addn. Plans deposit $50, refundable. Bennett & Straight, Inc., 15624 Michigan Ave., Dearborn, archt. Thomas J. Black, 17218 E. Warren St., Detroit, mech. engr. Lester H. Davies, 14458 Ford St., Dearborn, struct. engr.

Mich., Midland—RESEARCH CENTER—BA 12/18—Dow Chemical Co., Midland, agricultural chemical research center. Alden B. Dow, 315 Post St., archt.

Wis., Stoughton—HOSPITAL—BA 12/18—Stoughton Hospital Assn., Stoughton, hospital addn. $500,000. Plans deposit $30. Durrant & Berquist, 666 Loras Blvd., Dubuque, Iowa, archts. CD 12/7/55.

† **Ind., North Judson**—TRAINING CENTER—BA On Or About 12/27—U. S. Eng., 475 Merchandise Mart, Chicago 54, Ill., Army Reserve Training Center, Serial No. ENG-11-032-57-32. Bids 6/26 rejected. CD 6/12.

† **O., Cleveland**—TRAINING CENTER—Bids Asked—U. S. Eng., 925 New Federal Bldg., Pittsburgh 19, Pa., U. S. Army Reserve Training Center, ENG-36-058-57-19. CD 8/19/55.

BUILDINGS—SLC

Ill., Chicago—SHOPPING CENTER—Belden Shopping Center, c/o Hirschfeld & Pawlan, archts., 327 S. La Salle St., soon lets contract, 7 unit shopping center, N. Clark St. and Belden Ave. $500,000. CD 10/26.

HEAVY CONSTRUCTION—LB & CA

▲ **OHIO**—State Hy. Dpt., Columbus, Zone 15,
O.—**Kyova Constr. Co.**, Inc. Box 1158, Chesapeake, O. LB **$183,484**, est. $209,600. (6 bidders) Type T-35, 1.39 mi. SR 74-3.68, S-69 (3), Adams Co.;
O.—**Fred R. Creager & Sons**, P. O. Box 73, Liberty Center, O. LB **$117,055**. (5 bidders), Type T-32 on B-20, 4.446 mi. CR 16 (J), S-1218 (1), Fulton Co.;
O.—**Hatcher Brothers, Inc.**, 116 Schoolway, Mingo Junction, O. LB **$624,810**, est. $734,000. Type T-35 on B-119 and structures 1.671 mi. USR 62-0.00, 22.82, S-SG-141 (2), Village of Gann, Holmes and Knox Counties;
O.—**S. J. Groves & Sons Co.**, 500 Wesley Temple Bldg., Minneapolis, Minn. LB **$2,199,835**, est. $2,349,600. (8 bidders) Type T-71 and structures 7.95 mi. USR 224-10.33, F-458 (15), Medina Co.;
O.—**L. R. Skelton**, 3099 Sullivan Ave., Columbus, O. LB **$629,693**, est. $561,100 (3 bidders) Type T-35 and structure 2.58 mi. SR 73-20.78, S-492 (4), Scioto Co.;
O.—**B. F. Perry Constr. Co. and M. B. Guran Coal & Contg. Co.**, 1075 River St., Akron, O. LB **$3,298,611**, est. $3,415,900. (6 bidders) Type G-35, B-70, T-71 and structures 1.272 mi. SR 18-13.66, U-1086 (1), Part No. 8, City of Akron, Summit Co.;
O.—**O. E. Liller**, P.O. Box 350, London, O. LB **$134,217**, est. $157,500. (4 bidders) Type T-35 on B-119 and structures 0.501 mi. SR 47-(1.98) (6.26) (10.29), S-334 (3), Union Co.;
O.—**Harley E. Calvin & Co.**, Box 284, Marietta, O. LB **$100,519**, est. $117,400. (8 bidders) type T-35 on B-35 and structure 0.128 mi. USR 33-10.95, Hocking Co.;
O.—**Silvestri Brothers**, 713 Andrews Ave., Youngstown, O. LB **$513,413**, est. $425,800. (4 bidders) Type T-35 on B-70, 1.336 mi. USR 422-3.72, City of Youngstown, Mahoning Co.;
O.—**Claude A. Janes, Inc.**, Box 127, Chesterhill, O. LB **$419,116**, est. $474,800. (4 bidders) Type T-35 3.369 mi. SR 77-(1.95) (9.90), Morgan Co.;
O.—**Walter Jones Constr. Co.**, Rte. 1, Wooster, O. LB **$321,077**, est. $372,100. (4 bidders) Type T-35, 2.278 mi. SR 94-(12.28-12.16), (12.59-13.62), City of Orrville, Wayne Co. Bids Nov. 13. CD 10/29.

▲† **Morris Skilken & Co.**, 696 E. Broad St., Columbus, O. LB **$1,039,813**, est. $1,101,700. (3 bidders) remedial work on warehouse, Wilkins Air Force Station, SHELBY, O. U. S. Eng., 237 Fourth Ave., P.O. Box 2127, Huntington 18, W. Va. Bids Nov. 13. CD 10/16.

▲ **Arcole-Midwest Corp.**, 3225 Main St., Skokie, Ill. CA. **$3,393,424**. Section 1-A-2, comp. structures, drainage, paving St. Lawrence Ave., 71 and Cottage Grove, CHICAGO, ILL. City, City Hall, Chicago, Ill. Bids Oct. 23. CD 10/26 under LB.

▲ **Arcole-Midwest Corp.**, 3225 Main St., Skokie, Ill. CA. **$1,379,123**. Section 2-A-2, comp. structure, except steel, drainage, pavement, fencing 73 to 75 Sts., Calumet Skyway Toll Bridge, CHICAGO, ILL. City, City Hall, Chicago, Ill. Bids Oct. 17, awarded Oct. 30. CD 10/22, under LB.

▲ **Paschen Constr. Co.**, 2739 N. Elston St., Chicago, Ill. LB **$646,419**. Section 2-B-1, entire substructure storm sewers, structures, etc. for bridge at intersection of 75 and Greenwood Sts.; to pier at EPL of Dante Ave., CHICAGO, ILL. City, City Hall, Chicago, Ill. Bids Nov. 5. CD 10/26.

▲ **Michael Pontarelli**, 4248 N. Kilpatrick Ave., Chicago, Ill. CA. **$1,541,791**. Contr. 3, sewer constr. Wrightwood Ave. system, CHICAGO, ILL. City, City Hall, Chicago, Ill. Bids Oct. 22. CD 10/26, under LB.

MICHIGAN—State Mackinac Bridge Auth., L. A. Rubin, 608 Prudden Bldg., Lansing,
rejected bids Nov. 12, administration bldg., St. Ignace. CD 10/17.

Bowen & Fullerton, Ferryburg, Mich., and **Dykehouse Brothers**, 445 N. Ferry St., Grand Haven, Mich. LB **$422,211**. ST-114, Black Creek-Storm Sewer Outlet 7.2 mi. MUSKEGON, MICH. City, A. J. Leutscher, city clk., Muskegon, Mich. Bids Nov. 8. CD 11/1.

BUILDINGS—LB & CA

Penker Constr. Co., 1030 Summer St., Cincinnati, O. CA **$629,224**, est. $944,000. HIGH SCHOOL, West and Dry Fork Rd., Harrison, CINCINNATI, O. Southwest Local School Dist., Harrison, (Cincinnati), O. Bids Oct. 24, awarded Nov. 14. CD 10/1.

Snow & Walters, Schofield Bldg., Cleveland 15, O. CA Est. **$344,000**, SUPERMARKET with 200-car parking lot for Kroger Co., CLEVELAND, O. Uptown Investment, Inc., 11512 Park Ave. W., Mansfield, O. J. Kenneth Meyers, Sawhill Run Blvd., Pittsburgh, Pa., archt. CD 11/29/55.

H. F. Juergens Co., 15430 Edgewater Dr., Lakewood O., CA. **$758,370**. general contract, JUNIOR HIGH SCHOOL, MAPLE HEIGHTS, O. Bd. Educ., 5500 Clement Dr., Maple Heights, O. Bids Oct. 23, awarded Nov. 12. CD 10/30, under LB.

Milleti Constr. Co., 2475 State St., Cuyahoga Falls, O., CA **$516,375**. Sections B and C, HIGH SCHOOL, WICKLIFFE, O. Bd. Educ., 29240 Euclid Ave., Wickliffe, O. Bids Oct. 24, awarded Nov. 12. CD 11/5, under LB.

▲ **Geo. Sollitt Constr. Co.**, 109 N. Dearborn St., Chicago, Ill., CA **$2,280,148**. 4 story, women's DORMITORY, bounded by Woodlawn, Kimbark 58 and 59 Sts., CHICAGO, ILL. University of Chicago, 5801 S. Ellis Ave., Chicago, Ill. Bids Oct. 29. CD 11/5, under LB.

Mercury Builders, 761 S. Harlem St., Forst Park, Ill., CA **$504,773**. 3 story, bsmnt., CIVIC CENTER, Logan Ave., GENEVA, ILL. Geneva Park Dist., 1601 Kaneville Ave., Geneva, Ill. CD 11/8, under LB.

Mercury Builders, 761 S. Harlem St., Forest Park, Ill., CA. **$763,935**. HIGH SCHOOL addn., Logan Ave., GENEVA, ILL. Bd. Educ. Dist. No. 304, 1133 Peyton St., Chicago, Ill. Bids Oct. 30. CD 11/8, under LB.

▲ **Ragnar Benson, Inc.**, 4744 W. Rice St., Chicago, Ill., CA **$1,250,000**. 1 and 2 story, part bsmnt. brick, concrete general SHOP addn., 1319 S. 1 Ave., MAYWOOD, ILL. Public Service Co. of Northern Illinois, 1319 S. 1 Ave., Maywood, Ill.

▲ **Tonyan Constr. Co.**, 100 Borden St., McHenry, Ill., CA **$1,544,312**. HIGH SCHOOL addn., swimming pool, 500 S. Green St., McHENRY, ILL. School Dist. 156,500 S. Green St., McHenry, Ill. Bids Oct. 12. CD 11/8, under LB.

David E. Pettibone, 147 Tillson St., Romeo, Mich., CA **$459,750**. general constr. Harlan Elementary SCHOOL, BIRMINGHAM, MICH. Bd. Educ., Birmingham School Dist., Amos E. Gregory, secy., Birmingham, Mich. Bids Nov. 6. CD 10/25.

▲ **Ira Hotchkiss Co.**, 15030 Wyoming St., Detroit 38, Mich. Owner Builds. **$3,400,000**. 310 HOUSES, Pelham and Eton Sts., DEARBORN, MICH.

▲ **Cambridge Constr. Co.**, 22022 Woodward St., Ferndale, Mich. CA Est. **$3,650,000**. Hubbard Gardens, 250 brick ranch HOMES, Dover, Chester, Maplewood and Hubbard Rds., GARDEN CITY, MICH. Gordon Williamson Co., 19180 Grand River, Detroit 23, Mich.

▲ **Lerner & Langer Building Co.**, Pontiac, Mich. CA Est. **$650,000**. 60 frame HOUSES, Robinwood and Peery Sts., PONTIAC, MICH. Rose-Hill Realty Co., 17300 Grand River, Detroit 27, Mich.

WEST OF MISSISSIPPI

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

December 5 Missouri December 11 Texas

STREETS AND ROADS

December 5 Missouri December 11, 12 Texas

† **South Dakota**—AUTOTRANSFORMER—BA 12/11. Bureau Reclamation, Dpt. Interior, Bldg. 53, Denver Federal Center, Denver 2, Colo., 230/161-kilovolt autotransformer for Sioux City Sub-station, Transmission Div., Missouri River Basin Proj., Inv. DS 4764. Extended date. CD 9/19.

Tex., Beaumont—BA 12/12—City, City Hall, 42 and 30 in. main feeder line from pumping plant to Mariposa and McFadden Aves. George J. Schaumburg, 2678 Laurel St., consult. engr. CD 9/6.

† **Kansas**—BA 12/12—U. S. Eng., Box 61, Tulsa, Okla., Chisholm Creek Diversion, Wichita and Valley Center, Inv. 34-066-57-32. CD 8/8/56.

† **Kansas**—BA 12/13—Bureau Reclamation, Dpt. Interior, Stockton, surface settlement points, reference monuments for Webster Dam, Solomon Division, Missouri River Basin Proj., Spec. 701C-427. L. N. McClellan, Bldg. 1A, Denver Federal Center, Denver, Colo., ch. engr. CD 11/18/52.

† **N. D., Grand Forks**—BUILDING and P.O.L. FACILITIES—BA 12/13—U. S. Eng., 1709 Jackson St., Omaha, Neb. building and P.O.L. facilities, Grand Forks Air Force Base, Inv. 25-066-57-5. CD 6/21, under LB.

† **N. M., Albuquerque**—BA About 12/14—U. S. Eng., P. O. Box 1538, subsurface exploration, Albuquerque area, extending 5 mi. south from a point ¼ mi. south of US 66, CIVENG-29-005-57-6.

† **Minn., Duluth**—PARACHUTE AND DINGHY BLDG.—BA About 12/20—U. S. Eng., 1217 U. S. Post Office & Custom House, St. Paul, Zone 1, parachute and dinghy bldg., Duluth Air Force Base, ENG-21-018-57-5. CD 8/23.

† Tex., Corpus Christi—BOATHOUSE, etc.—BA. About 12/20—U. S. Eng., P. O. Box 1421, boathouse and concrete sheet pile bulkhead, Corpus Christi Area Office, CIVENG-41-243-57-54. CD 9/12, under LB.

† Wyoming—BA 1/3—Bureau Reclamation, Dpt. Interior, Glendo, constr. Fremont Canyon Power Plant and power conduit, Glendo Unit, Gregon Trail Div., Missouri River Basin Proj., near Casper, Spec. DC 4801; adv. ENR 11/29. CD 9/10.

BUILDINGS—BA

Tex., Fort Worth—SCHOOL—BA 12/20—Fort Worth Public Schools, Ed. P. Williams, bus. mgr., 3210 W. Lancaster St., 1 story, brick, tile, concrete Carter Park Elementary School, 1216 E. Broadus St. $450,000. Plans deposit $15. Robert P. Woltz, Jr., 1030 Seventh Ave., archt. CD 8/3.

Kan., Wichita—SCHOOL—BA 12/28—Bd. Educ., 428 S. Broadway, Intermediate School (W. S. Hadley School), $900,000. Leaper & Gilbert, 511½ N. Hillside St., archts. CD 8/27.

BUILDINGS—SLC

Tex., Brownsville—HOSPITAL—Sams Foundation, c/o Mercy Hospital, Brownsville, soon lets contract hospital unit for aged. $350,000. Phelps & DeWees & Simmons, 342 W. Woodlawn St., San Antonio, archts. Frank T. Drought, 342 W. Woodlawn St., San Antonio, engr. CD 11/8.

Tex., Fort Worth—TEST—General Dynamics Corp. of Convair Div., Grants Lane, soon lets contract rein.-con. pressure test bldg., Grants Lane, $300,000. Don Kirk, N. P. Anderson Bldg., engr. CD 11/9.

HEAVY CONSTRUCTION—LB & CA

▲ MINNESOTA—State Hy. Dpt., 1246 University Ave., St. Paul,

Minn.—**Johnson Constr. Co.**, Grove City, Minn.,

Barbarossa & Sons, St. Cloud, Minn. and **Nodland Constr. Co.**, Alexandria, Minn. (joint venture) LB $2,618,786. (7 bidders) grav. base, road-mixed bit. base, plant-mixed bit. surf. 7 bridges 7 mi., in Bloomington and Richfield, Hennepin Co.;

Minn.—**Alley Constr. Co.**, Faribault, Minn. LB $818,071. (5 bidders) crushed rock base, road-mixed bit. surf. 5.4 mi. between 0.4 mi. northwest of Dakota and 2 mi. southeast of LaMoille, Winona Co.;

Minn.—**W. Hodgman & Sons**, Fairmont, Minn. LB $515,633. (11 bidders) grav. base, road-mixed bit. base, plant-mixed bit. surf. 3.5 mi., south of Detroit Lakes, Becker Co.;

Minn.—**Quarve & Anderson Co.**, Hy. No. 52-S, Rochester, Minn. LB $280,948. (2 bidders) crushed rock base, plant-mixed bit. surf. 7.5 mi. between Chatfield and 7 mi. west, Olmsted Co. Bids Nov. 16. CD 11/1.

IOWA—State Hy. Comn., Ames,

Booth & Olson, Inc., 529 Insurance Exchange Bldg., Sioux City, Iowa, CA $598,768 c. conc. etc. 11.387 mi. Special F-521 (4), Shelby Co. Bids Nov. 13. CD 11/16, under LB.

IOWA—State Hy. Comn., Ames,

rejected bids Oct. 30, structural steel and steel bearing pilings for bridges, IN-ING 853 (2), Group 1 and 2, LB $375,422; Group 5, LB $91,224; Group 9, LB $164,599; all foregoing Polk Co.; UG-831 (5), Scott Co., LB $201,863; U-1052 (1), Johnson Co., LB $106,031. FG-568 (2), Hardin Co., LB $92,501. CD 11/5, under LB.

▲ IOWA—State Hy. Comn., Ames,

C. F. Lytle Co., 250 Insurance Exchange Bldg., Sioux City, Iowa, CA $1,374,892, bridges, culverts I-52 IN 886 (7) Woodbury Co. Bids Oct. 30. CD 11/5, under LB.

† Joseph L. Pohl, Nevada, Mo. CA $543,822. Agriculture Levee Unit 497-L Missouri River, near Forest City, Inv. 23-028-57-26, MISSOURI. U. S. Eng., Federal Office Bldg., Kansas City, Mo. CD 10/31, under LB.

▲ MISSOURI—State Hy. Dpt., Jefferson City,

Mo.—**Cameron Joyce & Co.**, 198 Seventh St., Keokuk, Iowa. CA $1,062,110. c. conc. 10.543 mi. St. Charles Co.;

Mo.—**Howard Constr. Co.**, 1504 N. Osage St., Sedalia, Mo. CA $80,976. grav. or crushed stone surf. 9.354 mi. Saline Co. Bids Nov. 1, awarded Nov. 17. CD 11/8, under LB.

† William Crumpecker & Sons, Morehouse, Mo., LB $731,540. 22,700 lin. ft. channel excav. etc. for Item No. 1, Clarks Corner Cut-off along St. Francis River, St. Francis Co., CIVENG-40-041-57-59. ARKANSAS. U. S. Eng., P. O. Box 97, Memphis 1, Tenn. Bids Nov. 8. CD 10/2.

Fenix & Scisson, Inc., 5805 E. 15 St., Tulsa, Okla., CA $208,495. Contr. WW 55-11, motor driven pump and electric controls, TULSA, OKLA. City, City Hall, Tulsa, Okla. Bids Oct. 12. CD 9/27.

▲† **Bauer-Smith Dredging Co.**, Box DB 4, Fort Lavaca, Tex., LB $1,998,888. dredging Neches River and cut-off channel and/or dredging from Sabine Pass to Port Arthur, Jefferson and Orange Counties, CIVENG-41-243-57-20, TEXAS. U. S. Eng., 606 Santa Fe Bldg., Galveston, Tex. Bids Nov. 9. CD 10/31.

Kehe Constr. Co., P.O. Box 671, Sherman, Tex., LB $350,605. water treatment plant and pumping units, ARLINGTON, TEX. City, City Hall, Arlington, Tex. Bids Nov. 16. CD 10/29.

Corpus Christi Plumbing Co., 617 S. Staples St., Corpus Christi, Tex., CA $205,000. sanitary and storm sewers and water sys., S. Staples and Gollihar Rd., CORPUS CHRISTI, TEX. Parkdale Plaza Shopping Center, 916 Commerce Bldg., Corpus Christi, Tex. Irving R. Klein & Assocs., 1317 Austin St., Houston, Tex., archts.

† **Goebel-Scott Corp.**, Alamo Heights Station, San Antonio, Tex., LB $339,448 Item 1-A, modifying, converting 12 existing barracks bldgs. into B.O.Q. bldgs., Inv. 41-629-57-16, ELLINGTON AIR FORCE BASE, TEX. U. S. Govt. Purch. & Contg. Officer, Ellington Air Force Base, Tex. Bids Nov. 6.

COLORADO — State Hy. Dpt., 4201 E. Arkansas St., Denver,

Henry Shore Constr. Co., 510 S. Windermere St., Littleton, Colo., CA, $272,404. stab., plant mix asph. surf. and structures 8.992 mi. Colo. Proj. S 0019 (4), Lincoln and Washington Counties. Bids Nov. 16.

City, City Hall, Aurora, Colo., cancelled bids to have been opened Nov. 13, filter plant equip. for water sys.; supplying 120,000 ft. 36 and 24-in. steel water pipe and fittings, AURORA, COLO. CD 10/30.

▲ NEW MEXICO—State Hy. Dpt., State Hy. Bldg., Cerrillos Rd., Santa Fe,

N. M.—**Longenbaugh & Coe, Inc.**, 524 Montano Rd., Albuquerque, N. M. CA $1,136,180, est. $1,289,788. Glorieta-west, Proj. I-091-5 (8), Santa Fe Co.; CA $146,807, est. $168,522. San Jon-Wheatland, Proj. S 1412 (1), Quay Co.;

N. M.—**Leslie Wheeler Constr. Co.**, 2129 Lead Ave. S.E., Albuquerque, N. M. CA $324,566, est. $384,800. Tucumcari Northeast, Proj. F 025-3 (2), Quay Co.;

N. M.—**G. T. Martin**, 400 California St. S.E., Albuquerque, N. M. CA $836,755, est. $900,367. Luna Junction-South, Proj. S 1165 (7), Catron Co. Grand total $2,444,308. Bids Nov. 16. CD 11/7.

† U. S. Eng., P. O. Box 1538, Albuquerque, N. M., cancelled bids to have been opened Nov. 19, officers' quarters, Holloman Air Force Base, ENG-29-005-57-41, ALAMOGORDO, N. M. CD 10/10.

† U. S. Eng., P. O. Box 1538, Albuquerque, N. M., cancelled bids to have been opened about Dec. 18, modification to water supply sys. automatic control equip., Sandia Base, ENG-29-005-57-42, ALBUQUERQUE, N. M. CD 11/14.

BUILDINGS—LB & CA

▲ **C. H. Peterson Constr. Co.**, National Bldg., Minneapolis, Minn. CA $1,258,950. general constr. two 1 story elementary SCHOOLS, ST. LOUIS PARK, MINN. Bd. Educ., A. Hobart, clk., St. Louis Park, Minn. CD 11/20, under LB.

Rauenhorst Constr. Co., 7848 Fremont Ave. S., Minneapolis, Minn. CA $349,000. general constr. 2 story, bsmt., 65x146 ft. SCHOOL, 1030 Van Slyke Ave., ST. PAUL, MINN. St. Andrew's Catholic Church, 1051 Como Ave., St. Paul, Minn. Shifflet, Backstrom & Assoc., 17 W. Franklin Ave., Minneapolis, Minn. Bids Oct. 9.

D. C. Bass & Sons Constr. Co., Bass Bldg., Enid, Okla., CA, $524,892. general contract Franklin and Junior High SCHOOLS, CRESTON, IOWA. Bd. Educ., Creton, Iowa. Bids Oct. 30. CD 11/5, under LB.

Glasgow Village Development Corp., St. Charles and Taussig Rds., Robertson 21, Mo. Owner Builds. $626,662. seventy-five 1 story frame RESIDENCES in Glasgow Village Units 14 and 16, GLASGOW VILLAGE (ST. LOUIS 16 P. O.), MO.

United Builders, Inc., 214 N. Broadway, Shawnee, Okla., CA, $379,296, JUNIOR HIGH SCHOOL and CLASSROOM addn., CUSHING, OKLA. Bd. Educ., Cushing, Okla. Hodgins, Thompson & Ball, 1411 Classen St., Oklahoma City, Okla., archts. Awarded Nov. 8. CD 5/1.

▲ **Badger Manufacturing Co.**, 2712 Danville St., Houston, Tex., CA Est. $15,000,000. benzine mfg. PLANT, BAYTOWN, TEX. Humble Oil & Refining Co., 1210 Main St., Houston, Tex. CD 10/25.

Centex Constr. Co., 4606 Greenville St., Dallas, Tex. Own Forces. $376,810, 31 DWELLINGS; $369,000, 28 DWELLINGS, DALLAS, TEX. CD 10/25.

Dicker, Frank & Hexter, 911 St. Joseph St., Dallas, Tex., Owner Builds. $359,175, 18 DWELLINGS; $348,185, 16 DWELLINGS, DALLAS, TEX. CD 11/8.

Mohawk Constr. Co., Box 45, Ysleta, Tex., Own Forces, $356,500. group of frame DWELLINGS, EL PASO, TEX. CD 11/9.

Thomas S. Byrne, Inc., 1307 Fort Worth Natl. Bldg., Fort Worth, Tex., CA $571,000, est. $500,000. 4 story CONVENT, 1 story CHAPEL, brick, tile, steel, concrete constr., FORT WORTH, TEX. St. Joseph's Hospital, Sister Mary Vincent, Admin., 1400 Main St., Fort Worth, Tex. Joseph R. Pelich, 1203 Commercial Std. Bldg., Fort Worth, Tex., archt. Awarded Nov. 12. CD 5/1.

Doyle Constr. Co., Box 1225, Amarillo, Tex., CA $529,530, constr. HIGH SCHOOL, HALE CENTER, TEX. Hale Center Independent School Dist., Hale Center, Tex. Bids Nov. 6. CD 11/20, under LB.

▲ **R. V. King, Contractor**, 12202 Hempstead St., Houston, Tex. Own Forces. $405,000, 41 DWELLINGS; $378,110, 38 DWELLINGS; $355,000, 34 DWELLINGS, HOUSTON, TEX. Grand total $1,138,110. CD 10/26.

Brazosport Builders, Howard Terry, 5519 Lawndale St., Houston, Tex. Own Forces. $361,115, 29 DWELLINGS; $373,300, 33 DWELLINGS, HOUSTON, TEX. CD 10/31.

"Homes of Charms", c/o Don Dobbins, 5519 Lawndale St., Houston, Tex. Owner Builds. $360,000, 30 DWELLINGS, HOUSTON, TEX. CD 10/31.

▲ **Marvin Henry Builders, Inc.**, 4208 Ella Blvd., Houston, Tex., Owner Builds, $366,500 21 DWELLINGS; $357,150 19 DWELLINGS; $345,000 17 DWELLINGS in Sharpstown, HOUSTON, TEX. Grand total $1,068,650. CD 9/6.

Christensen & Maddox, 715 Winchester Rd., Richardson, Tex., Owner Builds, $355,000. 22 DWELLINGS, RICHARDSON, TEX. CD 11/12.

H. B. Zachry Constr. Div., W. Harding Blvd., San Antonio, Tex., CA $371,100. 26 DWELLINGS, SAN ANTONIO, TEX. H. B. Zachry Properties, Inc., 310 S. St. Marys St., San Antonio, Tex. CD 10/23.

Lovering Constr. Co., 59 W. Kellogg Blvd., St. Paul, Minn. CA $409,746. general constr. 5 story St. Vincent HOSPITAL WING addn., BILLINGS, MONT. Sisters of Charity, Leavenworth, Kan. CD 10/24, under LB.

Jack H. Cys Constr. Co., 1745 Federal Bldg., Denver, Colo., LB $413,648, BANK, BOULDER, COLO. First National Bank, 1200 Parl St., Boulder, Colo. Hobart D. Wagener, 1201 Mapleton St., Boulder, Colo., archt.-engr.

▲ **Martin K. Eby Constr. Co.**, 610 N. Main St., Wichita, Kan., LB $2,810,696, TEST STANDS Nos. 3 and 4, and control building near DENVER, COLO. Glenn L. Martin Co., 1845 Sherman St., Denver, Colo. Aero Jet General Corp., 410 N. Citrus Ave., Covina, Calif., archts.-engrs.

FAR WEST

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

STREETS AND ROADS

December 6 Nevada

† Idaho—BA 12/6—Bureau Reclamation, Dpt. Interior, Boise, nine 150-kva, six 100-kva, nine 75-kva and eighteen 50-kva dist. transformers for distr. sub-stations for 17 wells, North Side Pumping Div., Minidoka Proj., Spec. 100X-273. CD 9/4.

† Wash., Spokane—WATER SUPPLY—BA 12/19—U. S. Eng., 4735 E. Marginal Way, Seattle, Zone 4, potable water supply for Fairchild Air Force Base, incl. 500,000 gal. rein.-con. reservoir, 3,896 ft. 10- to 16-in. water line, pumps, booster pump station, etc., ENG-45-108-57-85. CD 1/28/53.

BUILDINGS—BA

† Wash., Fort Lewis—CHAPEL—BA 12/5—U. S. Eng., 4735 E. Marginal Way, Seattle 4, 10,040 sq. ft. masonry chapel, Inv. 57-62. Extended date. CD 10/25.

Utah, Salt Lake City—HIGH SCHOOL—BA 1/15—Granite School Dist., 3212 South State St., Junior High School, Kearns. $850,000. Woods & Woods, 19 West South Temple St., archts. CD 9/26.

HEAVY CONSTRUCTION—LB & CA

▲ ARIZONA—State Hy. Dpt., 17 Ave. and Jackson St., Phoenix,

Peter Kiewit Sons Co., 2112 E. Indian School Rd., Phoenix, Ariz., LB $1,983,659, 1,400 ft. Mule Pass Tunnel, U. S. 80, Cochise Co. Bids Nov. 13. CD 10/30.

† **Cherf Bros., Inc. & Sandkay Contractors, Inc.**, Ephrata, Wash., LB $888,968 (5 bidders) earthwork, structures for Royal Branch canal laterals, waterways and drains, Block 85, Columbia Basin Proj., Spec. DC 4744, WASHINGTON. Bureau Reclamation, Dpt. Interior, Ephrata, Wash. Bids Nov. 15. CD 10/4.

† **Bureau Reclamation, Dpt. Interior**, Kennewick, Wash., cancelled bids to have been opened Nov. 15, Highlands Drain, Kennewick Div., Yakima Proj., Benton Co., Spec. 100-C-271, WASHINGTON. CD 10/24.

† **Nelse Mortensen Co.**, 1021 Westlake North, Seattle, Wash., LB $403,395. officers quarters, utilities and paving, Larson Air Force Base, ENG-45-164-57-10, MOSES LAKE, WASH. U. S. Eng., City-County Airport, Walla Walla, Wash. Bids Nov. 15. CD 10/11.

▲ CALIFORNIA—State Div. Hys., 1120 N St., Sacramento,

rejected bids Oct. 31, grading, paving 5.4 mi. 4-lane divided hy. U.S. 40 between p. 5 mi. east of Floristan and Nevada State Line, Nevada and Sierra Counties. LB $5,180,910. CD 11/2, under LB.

CALIFORNIA—State Div. Hys., 1120 N St., Sacramento,

M. J. Ruddy & Son and **Dan Caputo Co.**, Route 6, Box 1419A, Modesto, Calif., CA $502,887 2-lane highway 2-1 mi. East Modesto Rd., Stanislaus Co. Bids Oct. 24, awarded Nov. 15. CD 10/31, under LB.

▲ CALIFORNIA—State Div. Hys., 1120 N St., Sacramento,

Charles L. Harney, Inc., 575 Battery St., San Francisco, Calif., CA $7,075,009 portions of elevated Embarcadero Freeway in San Francisco, 2 level structure to provide for minimum of 4-traffic lanes at each level, San Francisco Co. Bids Nov. 14, awarded Nov. 16. CD 11/16, under LB.

▲ CALIFORNIA—State Div. Hys., 1120 N St., Sacramento,

McCammon-Wunderlich Co. & **Wunderlich Contg. Co.**, 2555 Pulgas Rd., Palo Alto, Calif., CA $3,601,981 grading, surf. 6.1 mi. U. S. 60, 5 structures, Placer Co. Bids Nov. 7, awarded Nov. 15. CD 11/12, under LB.

Daley Corp., P. O. Box 4067, N. Park Station, San Diego, Calif., LB $577,551. imprv. 54 St., University Ave. and El Cajon Blvd., SAN DIEGO, CALIF. City Council, Civic Center, San Diego, Calif. Bids Nov. 15. CD 10/24.

BUILDINGS—LB & CA

▲† **P. Hardeman, Inc.**, 10955 W. Pico Blvd., West Los Angeles, Calif., LB $1,580,000. (9 bidders) buildings, utilities and other facilities, in SPERT III area, National Reactor Testing Station, AT (10-1)-849, ARCO, IDAHO. Atomic Energy Comn., Idaho Operations Office, Idaho Falls, Idaho. Bids Nov. 16. CD 11/8.

Paulsen Constr., Box 2514, Salt Lake City, Utah, CA $571,000. 3-level parking GARAGE, W. Temple St., SALT LAKE CITY, UTAH. Zion Security Corp., Pierce Brady, mgr., Union Pacific Bldg. Annex, Salt Lake City, Utah. Bids Nov. 7. CD 10/18.

▲ **A. V. Peterson Co.**, 2827 N. E. Glisan St., Portland, Ore., LB $1,207,748 (6 bidders) 5 story Y.W.C.A. Bldg.,

PORTLAND, ORE.: Young Womens Christian Assn., 834 S. W. Broadway, Portland, Ore. Bids Nov. 13. CD 10/9.

W. C. Crowell Co., 170 E. California St., Pasadena, Calif., CA $531,000, est. $500,000: NURSING SCHOOL and RESIDENCE WING, ARCADIA, CALIF.: Methodist Hospital of Southern California, 26 Santa Clara St., Arcadia, Calif. Bids Nov. 13, awarded Nov. 14. CD 11/5.

▲ E. F. Gladding, 9178 Olive St., Fontana, Calif., CA $1,063,570 (9 bidders) Sequoia JUNIOR HIGH SCHOOL, FONTANA, CALIF.: Fontana School Dist., 8425 Mango Ave., Fontana, Calif. Bids Nov. 14. CD 9/14/55.

R. G. Fisher Constr. Co., 4833 N. Blackstone Ave., Fresno, Calif., CA $563,339: Moroa Ave. SCHOOL and Swift SCHOOL, FRESNO, CALIF.: Bullard Unified School Dist., 5445 N. Palm St., Fresno, Calif. Awarded Nov. 9. CD 11/1, under LB.

▲ Stolte, Inc., 8451 San Leandro St., Oakland, Calif., LB $1,894,721 (7 bidders) faculty and students RESIDENCE, OAKLAND, CALIF.: College of Holy Names, 2036 Webster St., Oakland, Calif. CD 10/18/55.

▲† Clarence Ward Constr. Co., 4333 E. Harvey St., Fresno, Calif., LB $1,290,000, permanent NAVAL FACILITY, NBy 4570, POINT SUR, CALIF.: Dist. P. Wks. Office, Twelfth Naval Dist., San Bruno, Calif. Bids Nov. 14. CD 10/24.

CANADA

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

STREETS AND ROADS

December 5: Ontario

BUILDINGS—BA

N. S., Halifax—MOTHER HOUSE—BA 12/14—Sisters of Charity, Mount St. Stephen, N. B., superstructure Our Mother House of Religious Order, 6 wings, 2 to 4 stories each 40x550 ft. connected with chapel in center, concrete fdns., struc. steel frame, stone and brick exterior walls, $525,000. Franco Consiglio, 272 Quinpool Rd., archt. Letendre, Monti & Assoc., 2075 Mansfield St., Montreal, Que., engrs. CD 6/6.

HEAVY CONSTRUCTION—LB & CA

BRITISH COLUMBIA—B. C. Govt., Parliament Bldgs., Victoria.

Assiniboia Constr. Co., Ltd., Pearce Estate, Calgary, Alta., CA $832,311 Proj. 211, Nechako River bridge, Fort George Electoral District. Bids Oct. 24, awarded Nov. 15. CD 10/31, under LB.

BUILDINGS—LB & CA

Howden Constr. Co. Ltd., rear 1877 Marine Dr., North Vancouver, B. C., LB $775,574 (4 bidders) Delbrook SENIOR HIGH SCHOOL, NORTH VANCOUVER, B. C. School District No. 44, 230 W. Keith Rd., North Vancouver, B. C. Bids Oct. 30. CD 10/4.

▲ Argo Constr. Ltd., 18 Gladstone Ave., Westmount, Montreal, Que., LB $3,344,000 (5 bidders) CUSTOMS BLDG., Duckworth and Water Sts., ST. JOHN'S NEWFOUNDLAND, Dpt. P. Wks., Hunter Bldg., Ottawa, Ont. Bids Nov. 14. CD 11/7.

Atlas Constr. Co. Ltd., 4781 St. Catherine St. W., Montreal, Que., LB $763,019 (6 bidders) FEDERAL BLDG., TRURO, N. S. Dpt. P. Wks., Hunter Bldg., Ottawa, Ont. Bids Nov. 7. CD 10/2.

▲ Schultz Constr. Ltd., 34 McMurray St., P. O. Box 157, Brantford, Ont., LB $1,699,000 (4 bidders) 3 story, bsmnt., FEDERAL BLDG. addns., alterations, BRANTFORD, ONT. Dpt. P. Wks., Hunter Bldg., Ottawa, Ont. Bids Nov. 14. CD 10/15.

Doran Constr. Co. Ltd., 5 Concord St., Ottawa, Ont., CA Est. About $400,000 (6 invited bidders) ELECTRICAL ENGINEERING BLDG., University of Ottawa, OTTAWA, ONT. University of Ottawa, Laurier Ave., Ottawa, Ont. Bids Nov. 6, awarded Nov. 13. CD 11/5.

▲ Piggott Constr. Co., Piggott Bldg., Hamilton, Ont., CA Est. $2,000,000, 110,000 sq. ft. brick, concrete block, steel FACTORY, SIMCOE, ONT. Canada Wire & Cable Co., 147 Laird Dr., Toronto, Ont. Bids Nov. 12, awarded Nov. 17. CD 11/5.

Broadvale Apartments Ltd., 2293A Yonge St., Toronto, Ont. Owner Builds. $819,000. APARTMENT, 678 Broadview Ave., TORONTO, ONT. Harry B. Kohl, 1407 Yonge St., Toronto, Ont., archt. CD 11/9/55.

Bowman Corp. Ltd., 10857 Pie IX Blvd., Montreal, Que., CA $795,000 (10 bidders) three 25-suite APARTMENT BLOCKS, Plymouth Rd., MONTREAL, QUE. Degmey Investment Corp., c/o Thibodeau & Thibodeau, archts., 940 Cote-de-Liesse Rd., Montreal, Que. Bids Sept. 24, awarded Nov. 12. CD 10/3, under LB.

J. H. Dupuis Ltee., 4324 Jeanne d'Arc St., Montreal, Que., CA Est. $450,000. 100 room MOTEL exten., 4950 Sherbrooke St. E., MONTREAL, QUE. Lucerne Motel Reyd., c/o contractor, Elio Vincelli, 429 Jean Talon St. W., Montreal, Que., archt. Awarded Nov. 8.

LATIN AMERICA

HEAVY CONSTRUCTION—LB & CA

▲ COSTA RICA—Bureau P. Rds., Dpt. Commerce, Inter-American Hy., Wash., D. C., U. S. A.

Costa Rica—Beche & Fait Ltd. & Cia Constructora Quoris & Ulate Ltd., San Jose, LB $4,791,693 (6 bidders) Proj. 75-56-5, approx. 43 mi. highway constr.; four bridges from San Isidro southeast to Platanares.

Costa Rica—Foster Constr. Co., San Jose, Costa Rica and William Brothers, Natl. Bank of Tulsa Bldg., Tulsa, Okla., U. S. A. LB $2,733,765 (6 bidders) Proj. 75-56-6, approx. 32 mi. highway constr. from Ballast Pit, 25 mi. southeast of Palmar extending southeast to Panama border. Bids Nov. 20. CD 10/17.

(Proposal Advertisement see pp. 85 to 87)

It's *New Again* with THORITE and THOROSEAL

Freeze-thaw cycle following water and moisture penetration, also swelling of reinforcing rods from moisture contact, cause masonry destruction.

BRIDGE OVER CONCORD RIVER ROUTE 3, BELLERICA, MASS.

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Area at left chipped to sound masonry. It will then be patched with THORITE *Nonshrink, Nonslump 20-Minute Set Patching Mortar*, without necessity of costly forming, finished by application of Thoroseal.

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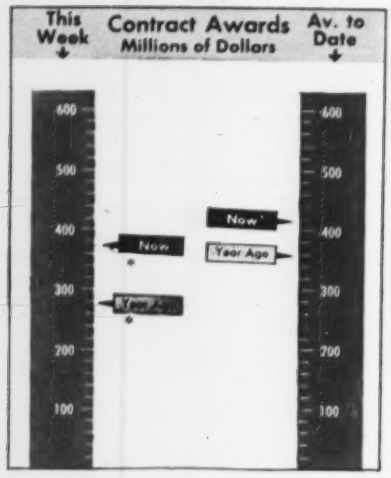
Construction Scoreboard

Activity this Week



* 4-day Week

AMOUNT OF CONTRACTS LET

By Ownership	This Week	Cum. 48 wks 1956 millions	Chge %
Federal	$16.4	$1,567.9	+2
State and Municipal	171.1	6,101.9	+26
Total Public	187.5	7,669.8	+20
Total Private	189.6	12,451.9	+14
U. S. Total	$377.1	$20,121.7	+16
By Type of Work			
Waterworks	$12.1	$335.4	+35
Sewerage	9.9	548.6	+54
Bridges	25.1	591.3	+30
Highways	62.8	2311.6	+17
Earthwork, Waterways	4.6	677.6	+35
Buildings:			
Public, Excl. Housg.	52.6	1,939.3	+22
Public Housing	5.6	295.0	+23
Private Housing	53.6	5,054.6	−13
Commercial	23.7	1,778.1	+13
Industrial	109.9	4,938.2	+84
Unclassified	17.2	1,652.0	−13
U. S. Total	$377.1	$20,121.7	+16

NOTE: Minimum size projects included are: Waterworks and waterways, $44,000; other public works, $73,000; industrial buildings, $93,000; other buildings, $344,000.

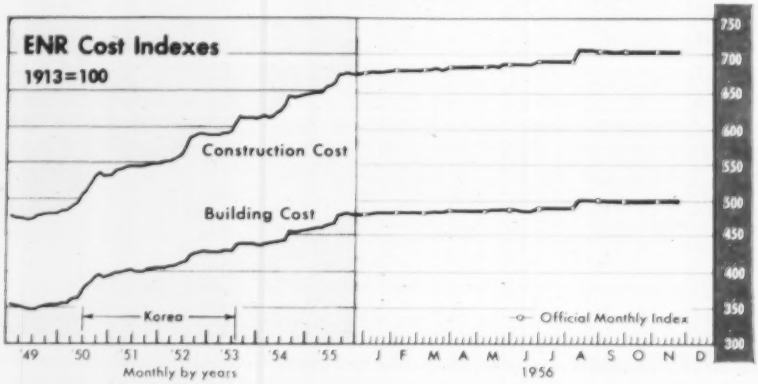
NEW CAPITAL FOR CONSTRUCTION

	Week of Nov. 22 1956 millions	Cum. 47 wks 1956 millions	Chge '55-'56 %
Corporate Securities	$88.4	$4,368.9	+31
State and Municipal:			
All Except Housing	96.5	4,225.6	−4
Housing	...	91.1	−2
Federal Loans	...	134.0	+10
Federal Aid	...	1,070.0	+25
Total Nonfederal	$184.9	$9,889.6	+12
Federal Appropriations:			
In U. S.	$...	$3,460.3	+2
Outside U. S.	...	15.9	−81
Total New Capital	$184.9	$13,365.8	+9

Cost indexes as of Now

ENR INDEXES (1913 = 100), 20-cities' average	Week of Nov. 22 1956	% Change from Nov. 1 1956	Nov. 24 1955
Construction Cost	703.89	−0.03	+4.6
Building Cost	500.24	−0.05	+4.5

To convert above indexes to 1926 = 100: Divide Construction Cost by 2.080; Building Cost by 1.850.
1949 = 100: Divide Construction Cost by 4.770; Building Cost by 3.518.



BACKLOG OF PROPOSED HEAVY CONSTRUCTION

	Oct. 30 1956 (millions)	% Change from last Month	Year
Total U. S. (ENR reported)	$103,144	+0.5	+14.4
By Ownership—			
Private	44,140	+0.5	+18.5
State & Municipal	45,351	+0.8	+12.6
Federal	13,653	−0.2	+7.9
By Type of Work—			
Waterworks	2,158	−0.7	+13.1
Sewerage	3,118	+0.5	+4.8
Bridges	2,875	−0.1	+5.6
Highways	11,710	+0.9	+4.3
Earthwork, Waterways	11,417	+0.7	+2.9
Public Buildings	18,539	+0.8	+16.5
Industrial Buildings	16,564	+0.6	+24.5
Commercial Buildings	18,185	+1.1	+20.7
Unclassified, Private	9,391*	−1.0	+5.6
Unclassified, Public	9,187	+0.1	+30.0
By Regions—			
New England	$5,873	+1.3	+17.6
Middle Atlantic	21,683	−0.1	+12.2
South	12,467	+1.2	+13.3
Middle West	17,983	+1.5	+14.4
West of the Mississippi	23,824	−0.01	+10.4
Far West	21,314	+0.4	+21.4

* Includes private bridges, $90 million.

FLOW OF NEW PROJECTS INTO THE BACKLOG

	1956 Oct. (millions)	10-Months	% Change from '55 Oct.	Year-Cum.
Total U. S. (ENR reported)	$1,848	$20,929	+27	+8
By Ownership—				
Private	996	10,922	+3	+25
State & Municipal	799	8,173	+146	−13
Federal	52	1,834	−68	+54
By Type of Work—				
Waterworks	30	409	+205	−9
Sewerage	52	464	+106	+46
Bridges	11	343	−56	−47
Highways	219	1,489	+115	−59
Earthwork, Waterways	101	722	+665	−66
Public Buildings	376	4,035	+133	+72
Industrial Buildings	377	5,033	−8	+54
Commercial: Mass Housing	308	2,783	+14	+3
Other Building	220	2,232	+35	+27
Unclassified, Private	91**	874***	−29	−16
Unclassified, Public	62	2,545	−59	+135

** Includes private bridges, $212,000. *** Includes private bridges, $13.7 million.

Turnpike Hits Bond Market Roadblock

$54-million Connecticut offering fails to draw any bids from bankers; governor calls emergency meeting

Financing for the 182-mile Connecticut Turnpike has run into at least a temporary roadblock in the municipal bond market.

A $54-million turnpike bond issue, offered Nov. 20, failed to draw a single bid from investment houses. Because of legal restrictions, bond dealers felt the bonds could not be sold in the present market.

By law, Connecticut Turnpike bonds must be sold at par with a maximum interest rate of 4%.

The latest financing setback came as something of a surprise to Connecticut officials. In a series of bond sales, the state previously had marketed $200 million worth of Connecticut Turnpike bonds at an average interest cost of 2.98%.

These bonds are well-regarded because they are backed not only by toll revenues but motor vehicle taxes as well.

• **Study alternatives**—State officials quickly asserted that the failure to sell the Nov. 20 offering would not delay construction of the turnpike. But, it also became obvious that the state will have to take a new look at its plans for the remainder of the tollroad financing.

Gov. Abraham Ribicoff called an emergency meeting of the Connecticut Expressway Bond Commission last Friday. They discussed various alternatives available to the state in raising the additional $245 million still needed for the turnpike.

State Treasurer John Ottaviano outlined some of these alternatives. The state has between $40 million and $50 million on hand. Current construction outlays are averaging about $12 million a month. So, cash in the till will cover construction work until the end of March.

Also, the state has the authority to issue short-term notes for a maximum of $50 million.

Another alternative would be to ask the General Assembly in January to change the legislation on turnpike financing so that the state could pay more than 4% interest on its bonds.

A third possibility, generally regarded as the least likely, would be issuance of general obligation bonds.

• **Will revenues warrant higher interest?**—While state officials were reluctant to discuss the alternatives in detail, the one that seemed to be getting the most attention was the possible boost in the legal maximum interest rate.

Three top Connecticut officials—State Treasurer John Ottaviano, State Finance Commissioner Joseph M. Loughlin and Attorney General John J. Bracken—were elected to meet in New York this week with Amman & Whitey, consultants on design and construction of the turnpike, and Coverdale & Colpitts, who made the traffic studies and revenue estimates for the tollroad.

One question they were expected to pose was whether anticipated revenues for the turnpike would justify paying more than 4% in order to borrow the money.

And, the commission might ask its consultants for a new estimate of final construction costs.

When the turnpike project first was proposed in 1953, cost of the tollroad was estimated at $220 million. By the time the state was ready to sell the first series of turnpike bonds in 1954, the cost estimate had risen to $398 million. The most recent estimate has been $445 million.

Needs Piling Up

Local governments must double annual spending for public works by '64

To catch up with their public works needs by 1964, states and municipalities would have to double their present rate of spending, Maj. Gen. J. S. Bragdon, President Eisenhower's special assistant on public works policy, said last week.

Speaking before the Investment Bankers Assn. annual convention in Hollywood, Fla., Bragdon said local governments would have to spend about $20.4

X-Shaped Engineering Building Planned

Carbide & Carbon Chemical Co. is planning this X-shaped engineering building at South Charleston, W. Va., to provide space for more than 500 engineers engaged in design of new equipment and new plants for the company's continuing expansion program. The architectural firm of Felheimer & Wagner, of New York, designed the engineering building which will be adjacent to a new development laboratory.

billion a year for various public works programs.

There is a $200-billion backlog of needed public works at the state and municipal level today, Bragdon asserted.

Of this amount, he estimated that $92 billion is needed for highways, $41.5 billion for educational facilities and $25.3 billion for water and sewerage facilities.

Bragdon said that he is particularly concerned over the problem of water. He commented that per capita use of water has tripled in the past 55 years. He estimated that water consumption over the next 20 years would amount to 191 billion gallons daily.

One out of every eight cities faces a water shortage at the present time, Bragdon said. And, Bragdon added, some water sources are not being protected because the nation has not yet launched an all-out attack on stream pollution.

Of 22,000 known sources of stream pollution, only 4,400 have adequate waste treatment facilities, Bragdon told the investment bankers.

San Francisco Gets Aid For Urban Renewal Project

More than $25 million in federal funds has been made available for redevelopment of a 28-block blighted area in San Francisco.

The Federal Urban Renewal Administration has agreed to loan the city $16.7 million and to make an outright grant of $8.4 million for property purchase, demolition of buildings, and site improvement in the Western Addition Redevelopment Project.

The San Francisco redevelopment agency hopes to begin land acquisition by July.

After widening streets and clearing the property, the agency will sell land for private development in conformity with a master plan which calls for construction of 2,800 residential and commercial units in the area.

In granting funds for the project, the federal government stipulated that the property must be sold within five years.

Utility Plans Financing For Atomic Power Plant

The Yankee Atomic Electric Co., owned jointly by six New England public utilities, has filed a petition with the Massachusetts Public Utilities Commission for initial financing of a $35 million atomic power plant to be built in Rowe, Mass.

The petition filed with the Massachusetts Regulatory Commission seeks permission to issue $500,000 in common stock and to borrow $1 million from its utility stockholders.

The petition was signed jointly by the six utility stockholders: New England Power Co., Boston Edison Co., Western Massachusetts Electric Co., Montaup Electric Co., New Bedford Gas & Edison Light Co., and the Cambridge Electric Light Co.

The plant, scheduled for completion by 1960, will have a 134,000-kw capacity.

Construction Markets

. . . An on-the-spot report from Phoenix

Phoenix, Ariz., is trading its horse for an airplane.

In the process of opening a new industrial frontier, the city is creating a busy market for construction.

The long-honored yip of the coyote now is drowned out by the roar of construction equipment racing to meet demands of a community spilling over with subdivisions and factories.

Credit for this goes to the miracle of electronics which has added a new aspect to an economy long geared to the three C's—copper, cotton and cattle.

Arizona's lawmakers improved the climate for industrial growth last year when they removed a tax on manufactured products sold to the federal government. This opened the door for electronics manufacturers and other companies producing components for the aircraft industry.

It was the fourth move in a tax overhaul program to make the state a more attractive haven for industry. And, industry was quick to respond.

AiResearch Division of the Garrett Corp., Motorola Research and Sperry Rand Corp. led the parade of electronics and aircraft suppliers into the Phoenix area.

The industrial impact has been felt in other quarters. The once-flourishing citrus groves are yielding to housing projects, which are spreading out so rapidly that they are now pushing farms back to the edge of the desert.

Developers like John F. Long put up 2,000 houses, then announce plans for creation of a 320-acre industrial area for light manufacturing. This, in turn, will create markets for another 1,200 houses by Long.

Public works are affected, too. The boom has caused Phoenix planners to study ways of carrying out a $20-million city expansion of sewer and water facilities.

Road congestion has sparked the start of freeway construction, with cloverleaf traffic interchanges, one-way streets, no-parking on boulevards, and parking meters.

The town faces an annexation problem. Phoenix has pushed into the environs of Scottsdale, 10 miles to the east, and to Glendale, nine miles to the west. It still is hemmed in by the South Mountains in that direction, but northward, the city has jumped into Deer Valley to nibble away at agricultural, or even raw desert land, for housing developments or more industrial tracts.

There aren't enough stores to satisfy the merchants. Banks continue to add branches. One bank, the Valley National, now has 53 branches in the state, most of them in the central Arizona region around Phoenix.

The Highway Department has funds for more roads; but it hasn't been able to plan at a rate that matches the district's surge.

Add to all this activity, the rash of motel construction, electric power plant additions, co-op apartments and public garages, among other things, and the long-term outlook seems strong.

For the shorter haul, say the next four months, the only sour note is financing. Growth has been so rapid that banks are "loaned up" because of the demands for housing funds, equipment purchases and inventory loans.

One Phoenix banker told ENR that ". . . it's going to take chunks of eastern capital." But, he feels any braking effect caused by tight money will be only temporary.

He reasons that industry now is creating jobs. And, out-of-state labor can be attracted by the area's favorable climate.

On the construction scene itself, labor is no problem in Phoenix. Contractors have been at peace with the building trades unions for several years. The present building trades pacts run until mid-1958.

With no imminent threat to labor stability, construction joins the chorus in Phoenix in describing the future as "tremendous."

Tax Exemptions Approved To Develop New Industry

Continuing its program of granting tax exemptions to encourage industrial development, Louisiana has extended aid to another 18 industrial firms.

The tax exemptions were on industrial property valued at more than $80 million.

The State Department of Commerce and Industry, which is responsible for administration of the program, also approved renewal of contracts for the second five-year span of a ten-year exemption period for industries with a total investment of more than $158 million. The renewals covered manufacturing facilities first exempted from taxes in 1951.

Meanwhile, the Louisiana Tax Commission opened hearings as a part of its probe of industrial ad valorem tax assessments. A commission spokesman, steering clear of any reference to assessment increases, said the investigation was aimed only at a fair adjustment of the schedule which is now several years old.

Some new assessment schedules for the taxation of industry probably will be worked out by January, a Tax Commission spokesman indicated.

$100-Million Metal Project Is Planned in West Africa

Aluminium, Ltd., plans an initial investment of $100 million to establish the first alumina industry in Africa. A French subsidiary of Aluminium will build an industrial complex in French West Africa. The site is about 345 miles southeast of Dakar.

The project would include construction of a 75-mile railroad, storage and port facilities at the mouth of the Rio Nunez, a chemical works and a town for the employees.

The original $100-million project will be built over a five-year period according to the company.

Tight Money to Continue

One of the government's top financial experts now is predicting that the scarcity of mortgage money for housing will continue for at least the next seven months.

J. Stanley Baughman, president of the Federal National Mortgage Association, says that competition is so strong for the available funds that no easing is in sight in the immediate future.

Baughman blamed the tight money market on the upsurge in commercial and industrial building.

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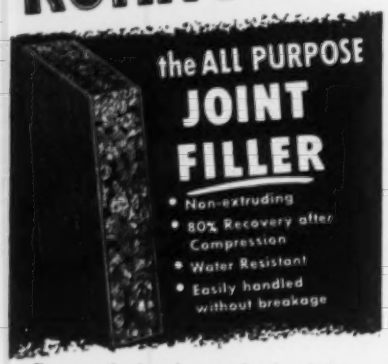

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Emphasis Changes

Philadelphia outlines its new public works goals

Philadelphia's 1957 budget for public works will total $70.8 million, and the program for the five-year period 1957 to 1962 could add up to more than $603 million.

Both the 1957 plan and the five-year program were outlined by Mayor Richardson Dilworth in a message to the Philadelphia City Council.

In his budget message, the Philadelphia mayor said that the previous four-year emphasis on construction of police and fire stations and on recreational facilities and water and sewage treatment systems had reached a leveling point.

If the mayor's program is carried out, Philadelphia now will place its public work emphasis on large highway projects, port and airport improvements, and urban redevelopment.

Included in the 1957 capital budget would be $4 million for paving work involving the $100-million Philadelphia Food Distribution Center.

Also included in the 1957 public works budget is $1 million for a start on a redevelopment project near the University of Pennsylvania.

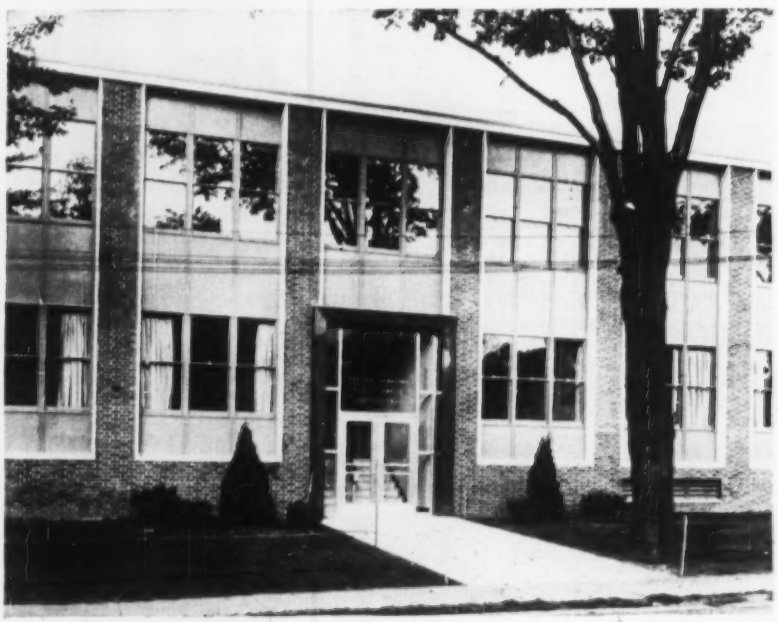
The city plans to spend $4.3 million for a parallel instrument runway at International Airport and $2 million for two new hangars.

About $6.4 million will be spent on port projects during 1957. More than $5 million of the total will go for a modern marine terminal with berths for five ocean-going ships. This terminal will be built along the Delaware River to serve the new Food Distribution Center.

Philadelphia's 1957 capital budget will be made up of $61.3 million in city funds, consisting of $27.3 million in self-supporting loans; $22.1 million in tax-supported loans; $9.4 million in loan funds carried over from previous years; and $2.5 million under the city's pay-as-you-go plan.

In addition, there will be $3.7 million in state grants, $1.9 million in federal grants, and $3.9 million in assessments.

During the next four years, about $9 million worth of public works construction is scheduled for the central section of the city alone. The city will finance only $1.5 million of this amount. The balance will come from state and federal sources.



Insurance Firm's 100th Sale and Leaseback

This new home office building of the Central Vermont Public Service Corp. in Rutland, Vt., became the 100th sale and leaseback transaction made by the New York Life Insurance Co. This $800,000 deal brought New York Life's total investment in these leasebacks to more than $131 million.

Simple Fact Sheet Is Key To Public Relations Plan

A simplified public relations program for general contractors in the Carolinas has been worked out by the Carolinas Branch of the Associated General Contractors of America.

The two months' old program stresses the local approach.

Key to the program is a fact sheet on which the contractor answers 14 questions whenever he receives an award. The sheet is then sent to local newspapers and radio stations.

Business Briefs . . .

• **Less money, less construction**—Canada's postwar building boom will level off in 1957 because of the Canadian Government's recent credit restrictions, according to Donald R. Emery, president of the Ontario General Contractors Assn.

• **More shopping centers**—Any current overexpansion in the shopping center field will constitute only a drop in the bucket in relation to longer-term needs, according to New York economist Robert H. Armstrong. He foresees a need for construction of 840 million sq ft of additional store space by 1976, with most of this concentrated in suburban areas near the big metropolitan centers.

• **Sewerage projects approved**—Ohio voters approved 23 bond issues, totaling nearly $31 million, for construction of sewers and sewage treatment plants at the Nov. 6 election, according to the Ohio Pollution Control Board. Voters turned down only $2.6 million in bond issues for a sewerage project, the board reported.

• **VA appraisals down**—Requests for appraisals on proposed housing units ran well behind 1955 during October, according to the Veterans Administration. The VA figures, often regarded as an advance indicator of future housing starts, totaled 29,678—down 31% from October 1955.

• **Steel expansion**—Crucible Steel, which has a $20-million expansion under way, now has announced a new $25-million program to be started quickly. Says Crucible: "There will be some increase in capacity, but the program is aimed chiefly at cost reduction and quality improvement." Significantly, the new program will be financed entirely from retained earnings.

• **Five-year plan**—A $41-million, five-year program of city improvements has been proposed for Portland, Ore. The program, still in the "rough draft" stage, would be financed with bond issues and increased local taxes.

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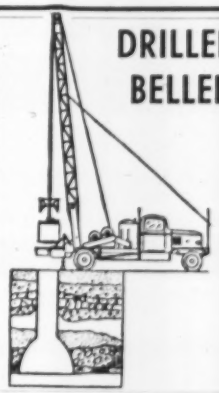

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AFL-CIO: "Wages Are Too Low"

As factory wages approach a new high, construction and production workers see the need for setting higher goals

Noting that average hourly earnings of factory workers have passed "the landmark of $2.00," the AFL-CIO concedes the figure is "impressive" but says it's not enough. In the current issue of its "Economic Trends and Outlook," it lists $3.00 an hour as its next goal. Union efforts in that direction are apt to exert a strong upward pressure on construction wages because of the zealous guarding of the hourly wage differential the building trades enjoy.

According to the U.S. Labor Department's Bureau of Labor Statistics, average hourly earnings of production workers in manufacturing rose to $2.00 in September and the preliminary estimate for October is $2.02. For construction workers, whose hourly wages are traditionally higher for a multiplicity of reasons, the comparable September figure was $2.78.

• **Lag in real wages**—Big hitch noted by the AFL-CIO in past wage gains is that they have not resulted in a similar increase in "real living standards." While wages have undergone a ten-fold increase since 1914, the AFL-CIO asserts, real wages—wages adjusted for changes in prices—have little more than trippled.

At the present time, according to the federation, the $2.00 level is still 20 cents short of the amount "required by a family of four at today's prices for a minimum standard of health and decency under the Labor Department's City Workers' Family Budget." Annual income needed under that standard is $4,400.

The fact that construction wages generally exceed both the $2.00 and $2.20 figures, several of the building trades have argued, does not mean that construction workers are the "aristocrats of labor" or are even well-off. In the November issue of their monthly journal, the lathers say, "The fallacy in such a comparison is that factory workers can generally count on full-time employment all year around, while the number of days during the year when the average building trades worker can actually be on the job is limited. He is paid only for the hours he actually works. His working time is restricted by weather conditions. It is also reduced by peculiar characteristics of the building industry which make it necessary for the workers to shift from employer to employer and from job to job at fairly frequent intervals with a consequent loss of work between jobs. . . . (Construction workers') annual income, despite the high hourly rate, is lower than the yearly income of workers in most other industries." In fact, the lathers assert, their income is "well below par." Similar statements have come from the roofers union and from Harry Bates, president of the bricklayers union.

• **Construction differential**—Here are some figures from the U.S. Departments of Labor and Commerce against which the 78-cent hourly wage differential enjoyed by construction workers in September can be compared: in September the average factory worker worked 40.7 hours a week; construction workers averaged 38.4 hours. Average annual income of factory workers in 1955 was $4,351; despite the differential in hourly rates, construction workers did only $36 better with $4,387. It therefore seems unlikely that the building trades will placidly allow their hourly wage differential to be whittled away.

The carpenters also have argued that the differential is justified on several other counts: the longer training, higher skills, greater versatility and fewer fringe benefits of construction workers.

Union construction workers have attempted, at the same time, to justify their higher wages in the face of mounting building costs, particularly in the sensitive homebuilding field. This is what some have had to say: "The major cost in housing is not wages. . . . Labor recognizes that the prices of new houses are too high. The way to reduce these prices is not to slash the income of building trades workers which are already far too low to meet family expenses, but to hold down building material prices, financial costs and excessive profits of speculative builders."

Coupled with the wage philosophy of the building trades, the AFL-CIO analysis of the $2.00 factory wage may be of some indication of future wage pressures in the construction industry. "The $2 figure," says the AFL-CIO, "does not represent the end of the road or even a spot to linger and rest. . . . The next convenient spot on the road is the $3 mark. . . . This time with a stronger trade union movement, the job can undoubtedly be accomplished far more quickly."

Union May Retain Pickets After Losing an Election

The Taft-Hartley Act has been construed by a National Labor Relations Board trial examiner to permit a union to continue picketing for bargaining rights even after a majority of the employees have rejected the union as their bargaining agent.

The case arose in Washington, D. C., where the teamsters union had held the bargaining rights for a group of employees. Following a dispute with the union over use of a union-shop clause, the employees voted against the teamsters as their bargaining representative. The union continued to picket the employer's premises and the employer filed unfair labor practice charges against the union.

In ruling in favor of the teamsters, the trial examiner said there is nothing in the law or its legislative history to prevent that type of picketing. "If the Congress wishes to sound the death knell to peaceful recognition picketing by a minority because of the economic pressures such picketing exerts on an employer," he noted, "it, of course, may do so. But it may not be done by administrative fiat."

Licensed Engineers Enjoy Some Economic Advantages

Licensed professional engineers—particularly those above the age of 40—employed by industrial concerns fare better economically than their nonlicensed associates, a survey conducted by the Schenectady (N. Y.) General Electric Engineers' Association reveals.

It was found that "the man with the license is the beneficiary of probably $2,000 to $2,500 a year more salary in the age level above 40 years." For those under 40, the advantage appeared to be reduced to $500 to $1,000 a year.

Possession of a license, however, appears to be less significant in an engineer's chance to become a supervisor. According to results of the survey, "up to the age of 40 the selection of supervisors is nearly independent of one's licensed status." But among those over 40 "a far higher percentage of licensed engineers are located in supervisory positions than is true for nonlicensed engineers."

Wages In the Highway Program

Labor Department solicitor cites need for contractor and labor participation in wage rate determination

The U.S. Department of Labor has mapped out a prevailing wage procedure that will bring wage determinations for the federal highway program "as close as possible to the people affected." According to Stuart Rothman, Department Solicitor, one of the keys to the success of wage determinations for highway purposes will be the extent of labor and contractor participation at the local level, the amount and quality of wage information voluntarily submitted and the extent of cooperation with the Labor Department's regional attorneys.

In a statement entitled, "The Role of the Department of Labor in the Interstate Highway Program," Rothman places particular emphasis on the role to be played by regional attorneys, who will have the responsibility of explaining the program at the local level and of coordinating the wage information that flows in from state highway departments and from contractors and labor. It is to the regional attorneys that requests for wage determinations together with state highway department wage information will be submitted. Specific wage data also may be submitted to the same individual by interested parties. "At this point," Rothman states, "any conflicts should be worked out." All the material will then be submitted to Washington for final determination.

• **The law**—Rothman refers to Sec. 115 of the Highway Act of 1956—which extends the Davis-Bacon prevailing wage provision to the interstate highway program—as a "further implementation of the President's philosophy of federal-state partnership without sacrificing labor standards." Use of prevailing wages, he notes, has had a "stabilizing influence in the construction industry" and has been a "bulwark of protection for the working man against substandard wages." An extension of the prevailing wage principle to the highway program is in the public interest, he continues, because "the workman's income now as never before is the barometer of the economic climate. . . . The underpaid working man is a poor consumer."

Some light is shed by Rothman on several provisions of the law:

• A wage determination will be made for each project contract and will be based on wages actually paid "for the same type of work on similar construction"—which means for highways.

• Required wage determinations are for straight hourly rates on an individual craft basis.

• Only "laborers and mechanics" are covered. This excludes clerical, supervisory or non-manual workers. A watchman, for example, is not covered. The test is the nature of the duties, not the arbitrary job classification.

• The geographical limitation of wage determinations—"immediate locality"—is flexible and is not limited to specific political subdivisions. "The area considered," Rothman observes, "should be large enough to yield an adequate factual basis for each wage determination, yet be small enough to reflect only the wages and practices of the area immediately surrounding the location of the proposed project."

• Consultation with the state highway departments will be conducted by the regional attorneys. It is contemplated that state officials will submit wage data to the attorneys for consideration by the Secretary of Labor 45 days before the advertising date for bids.

• **Wage data**—The Secretary of Labor, who has the sole responsibility for making wage determinations, will follow the Labor Department's Regulations, Part 1. These require his determination for any particular classification to be the wage paid for similar work in the area to the majority employed in that classification. If the majority don't get the same rate, then it's the rate paid to the greater number. But if the "greater number" doesn't exceed 30% of those so employed, then the average rate is used.

Actual project data then becomes an essential factor in wage determinations. And the Labor Department will continue to rely heavily on the voluntary submission of such data.

To facilitate its submission, the department has developed Form SOL-167. This is designed to supplement as well as to substantiate the information contained in collective bargaining agreements. Each form will relate to a specific project and will disclose the location and cost of the project, the number of workers employed in each classification and the rates paid each worker.

Rothman suggests that those who have an interest in wage determinations consult periodically with their state highway department to keep abreast of project programming and then develop for voluntary submission project information for each project programmed. This information then can be submitted to the regional attorney or directly to the Labor Department well in advance of the formal request for the project wage determination. Rothman hopes that through cooperation of this kind unnecessary delays in letting contracts can be avoided and that wages can be accurately determined without being subject to future challenge and without resorting to too many on-the-spot surveys.

Electricians Lead

New contract makes wages scale highest in Canada

More than 1,000 inside electrical workers in the lower mainland of British Columbia have accepted a 57 cent combination present and deferred wage increase to make them the highest paid building trades workers in Canada. Their basic rate will become $2.99 an hour next Oct. 1.

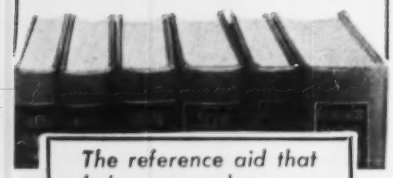
Acceptance of the offer by Local 213 of the International Brotherhood of Electrical Workers came after the electrical workers had rejected a conciliation award of 28 cents an hour spread over two years, and had decided to back their rejection with strike action.

Immediately, the wage boost brought an announcement from provincial carpenters—who number about 10,000—that they would bargain for a major wage increase early next year, following the same pattern as the electrical workers and the plumbers, who recently won a sizable wage boost. Said E. T. Staley, secretary of the Provincial Council of Carpenters: "Carpenters consider they are the most important people in construction work and we're not going to be left behind by increases granted other trades."

The carpenters' present contract expires March 1. No figure has been named for the increase they'll seek. It would take a 71-cent wage increase to match the $2.99 scale won by the electrical workers. In the past, wages of carpenters have lagged about 10 cents an hour behind those of the electrical workers—but even to maintain this position the carpenters would need a 61-cent hourly boost.

(Labor continued on page 84)

Save time and money on construction jobs



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Workmen's Compensation Law Change Proposed in Wyoming

A "disaster fund" to help small businesses pay the cost of industrial accidents in Wyoming has been proposed by a joint labor-industry committee on proposed changes in the state's workmen's compensation law.

Under the present system, a small business that has had a serious accident may have to pay the maximum 4½% of payroll contribution to the workmen's compensation fund for 20 to 25 years until its account with the fund is in the black. This necessity, commented Joseph Simpson, an electrical contractor serving on the committee, may cost small contractors jobs.

The "disaster fund" proposal, to be submitted to the 1957 Wyoming legislature, would permit small businesses to pay ¼ to ½% of their payroll to a special fund, in addition to their regular payments to the workmen's compensation fund, to help defray the cost of fatal and total disability accidents. Operation of the fund would be similar to that of the state's coal mine disaster fund to which coal mines contribute a small percentage of their payrolls to help pay the cost of major mine accidents.

Iron Worker, Homebuilder On Taft-Hartley Committee

John Lyons and Rodney Lockwood have joined the joint advisory committee set up by Secretary of Labor James P. Mitchell to consider and recommend revisions in the Taft-Hartley Act. Lyons is president of the ironworkers union and Lockwood is head of the Detroit Builders Association, an affiliate of the National Association of Home Builders, of which Lockwood is a past president.

The committee, consisting originally of six members, held its organizational meeting on Nov. 19 (ENR, Nov. 22, p. 85). Next meeting is scheduled for this week, when specific proposals are expected to be considered. Purpose of the committee is to help Mitchell formulate his recommendations to President Eisenhower for Taft-Hartley changes affecting contractors and the building trades.

Other committee members are: Richard Gray, president of the AFL-CIO Building and Construction Trades Department; Maurice Hutcheson, president of the carpenters union; Peter Schoemann, president of the plumbers union; Edward Kelley, labor relations advisor to the Associated General Contractors; C. H. Haxby, president of the National Constructors Association; and Paul Geary, executive vice president of the National Electrical Contractors Association.

Mitchell has expressed the hope that the committee can come up with some joint recommendations that may make some sense out of the "hodge-podge" of the law.

Union Shop Clause Policed On Right-to-Work Analogy

A state that has no right-to-work law has found a new use for Sec. 14 (b) of the Taft-Hartley Act. This provision in the federal labor law allows a state to pass a right-to-work law and thus to ban the use of union shop agreements. The Wisconsin Employment Relations Board now has come up with this theory: If a state can prohibit union shop agreements, it can regulate them—and regulation includes the right to set aside such agreements if they are unreasonably applied.

In the case before the board, a union had a union shop contract with its employer. The union denied membership to one individual and the company discharged him. The board found that the rules under which membership was denied were unreasonably applied. Its order: Give the discharged worker membership in the union or suffer having the agreement set aside by the board.

Over the objection of the union, the board took the position that the National Labor Relations Board did not have exclusive jurisdiction over the case. It reasoned that the state has been given the right to ban the use of union shop agreements; this right also embraces the right to regulate them. The Wisconsin law, the board said, does confer the right to regulate them and gives the board the authority to set aside such agreements in cases where they have been unreasonably applied.

Lathers Take Their Dispute With Carpenters to Court

The lathers union, by attacking the National Labor Relations Board in a federal court, has again focused attention on the respective roles of the National Joint Board for the Settlement of Jurisdictional Disputes and of the NLRB in jurisdictional disputes between unions.

The action stems from a lather-carpenter dispute in Cleveland, over installation of acoustical ceilings (ENR Oct. 11, p. 142). The lathers had struck a number of jobs in protest of contractor assignments of the disputed work to carpenters. After the Joint Board had

unsuccessfully ordered the lathers back to work, the contractors filed unfair labor practice charges against the lathers with the NLRB, which issued a complaint and obtained an injunction against the lathers. Later the Joint Board issued several job decisions in favor of the carpenters. The case is now before the NLRB.

The lathers now are asking the Federal District Court in Washington, D. C., to quash the NLRB proceeding on the ground that the NLRB should not have issued the complaint without first holding a hearing under Sec. 10(k) to determine whether the disputing unions had voluntarily agreed upon a method of settling the dispute.

There are apparently two strings to the lathers' bow—they claim to have withdrawn from the Joint Board over a year ago and seem to feel that last year's change in the building trades' constitution to extend the Joint Board to all the building trades was never legally effective.

The NLRB claims a pre-complaint hearing was not necessary, that the Joint Board is the recognized instrument for settling disputes between the building trades and that on procedural grounds the action now can't be attacked in court.

Labor Briefs . . .

• **State merger**—AFL and CIO state labor groups in Maine have merged to form the Federated Labor Council with 60,000 members, bringing to 19 the number of states in which union mergers have been completed. Two goals listed by the new federation are a state minimum wage law and a state labor relations board to act in cases where the national board declines jurisdiction.

• **Reclassification**—Under an arbitrator's decision in a dispute between the Southern California Chapter of Associated General Contractors and the District Council of Laborers, laborers who shovel or handle asphalt will get a wage boost by being classified as "spreaders" instead of "general or construction laborers." Suggested test: Physical distribution of hot asphalt by use of such hand tools as lutes, spreaders or shovels.

• **A protest**—Refusal of a city building inspector to approve "bootleg" plumbing in a building owned by the wife of a city official touched off a protest by the Youngstown, Ohio, Building Trades Council against unqualified city employees doing work of the building trades. Here's what reportedly happened: A fire department official did the plumbing, a park policeman the electrical work and two firemen the decorating.

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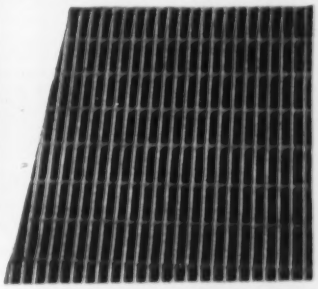

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Bids: January 22, 1957

Port of Corinto, Nicaragua, C.A.

PORT CONSTRUCTION—PHASE I
PORT CONSTRUCTION—PHASE II
AUTORIDAD PORTUARIA DE CORINTO
MANAGUA, NICARAGUA

Sealed bids in triplicate for Port Construction, Phase I and II, at the Port of Corinto, will be received by the Autoridad Portuaria de Corinto, hereinafter referred to as the Autoridad, Edificio Cerna, Calle Central Este, entre 4 y 5 Ave., 4° Piso, Managua, Nicaragua, C.A. until 10:00 A.M. Nicaragua time on January 22, 1957, at which time the bids will be opened.

Phase I of the work consists of the construction of a new wharf approximately 370 meters long, including dredging and disposal of dredged materials; furnishing and placing rock and sand fill, riprap and filter blankets; furnishing and placing concrete piles and concrete deck structure; furnishing and installing timber fendering; and furnishing and installing deck fittings and track work. Listed below are the estimated qualities for the principle items of work.

85,000 C.M.	Dredging
46,000 Metric Tons	Rock Fill
139,000 C.M.	Sand Fill
26,000 L.M.	Reinforced Concrete Pile
5,000 C.M.	Concrete

Phase II of the work consists generally of the following construction: 1) Two transit sheds approximately 50 meters wide and 117 meters long; a pump house approximately 3.8 meters wide and 5.0 meters long; and a truck service shelter approximately 9.1 meters wide by 17.4 meters long; all steel frame structures with protected metal roofing and siding. 2) A guard house approximately 3.7 meters square, of concrete unit masonry construction with concrete roof and built up roofing. 3) Masonry and steel partitions; overhead steel and hollow metal doors; commercial projected steel windows; plumbing; sprinkler systems; electrical work, painting and miscellaneous incidental items of work for the building structures. 4) Fire pump and fuel tank; fuel dispensing units and storage tanks and interconnecting piping. 5) Water tower for fire protection system and standby pump. 6) Utilities, including fire and domestic water mains, sanitary waste and storm drainage, and electrical distribution. 7) Reinforced concrete paving of port area and railroad track work.

Separate Contract Documents including plans and specifications have been prepared for Phase I and for Phase II and may be obtained from the Autoridad upon payment of One Hundred and Seventy Five Cordobas for each separate complete set of Contract Documents, which money will not be refunded.

The Contract Documents may be examined at the above offices of the Autoridad, the offices of the Consulate General of Nicaragua in New York City and at the New York offices of Tippetts-Abbett-McCarthy-Stratton Engineers.

Bids may be submitted for Phase I, Phase II, or both combined. A separate proposal form is provided for the combined bid.

The Autoridad reserves the right to reject any or all bids and waive any informality or irregularity in bids received.

Each bid shall be accompanied by a bank guarantee from a bank approved by the Autoridad, or bid bond satisfactory to the Autoridad, in the amount of two (2) percent of the total price in Cordobas.

The total bid price in Córdobas will be deemed to be the total dollar equivalent amount of the bid multiplied by 7.0.

AUTORIDAD PORTUARIA DE CORINTO
Mangua, Nicaragua

Bids: December 18, 1956

Contract NYA-220.014

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THE PORT OF NEW YORK AUTHORITY
NEW YORK INTERNATIONAL AIRPORT
EXTENSION OF SECOND FEEDER FOR NAVIGATION AIDS AT RUNWAY 4-22

Sealed proposals for the furnishing and installation of a 5000 volt feeder and equipment for navigation aids at Runway 4-22 at New York International Airport will be received at the office of the Chief Engineer of The Port of New York Authority, Room 1100, 111 Eighth Avenue, New York 11, N. Y., until 2:30 P.M. on Tuesday, December 18, 1956, at which time said proposals will be opened and read in Room 1108.

Contract documents may be seen at the office of the Engineer of Design of the Authority, Room 1115. Documents will be furnished upon deposit of $30.00 per set for not more than three sets to any one company (each set including one copy of the contract drawings). Additional sets will be furnished upon payment of $30.00 per set, which payment is not returnable. Deposits and payments shall be delivered to the Treasury Department, Room 1001, where a receipt in duplicate will be issued. A copy of the receipt shall be delivered to Room 1115, where the documents will be furnished.

Those who have submitted a bid on the contract will receive a refund of the deposit for each set of documents, not exceeding three, returned within forty days after the opening of proposals. Those who have not submitted a bid will receive a refund of one-half of the deposit for each set of documents, not exceeding three, returned within forty days after the opening of proposals.

THE PORT OF NEW YORK AUTHORITY
Donald V. Lowe, Chairman

New York, November 29, 1956

Bids: December 5, 1956

Construction of High School

NOTICE OF ADJOURNMENT OF BIDS

Notice is hereby given that the receipt of bids for

General Construction
Plumbing
Heating & Ventilating
Electrical

work in connection with the construction of an addition—alteration to Croton-Harmon High School previously set for November 27, 1956 has been adjourned to December 5, 1956 at 8 o'clock p.m. at the Board Room, High School, Croton-on-Hudson, New York. Bidding forms and contract documents can be obtained from Carr & Wiggins, Architects, 11 West 42nd Street, New York, N. Y.

By order Board of Education
Union Free School District No. 2
Towns of Cortlandt and Yorktown

November 16, 1956.

Bids: December 27, 1956

Contract NYA-650.038

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LANDSCAPING NORTH OF THE ENTRANCE ROAD

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THE PORT OF NEW YORK AUTHORITY
Donald V. Lowe, Chairman

New York, November 29, 1956

Bids: December 10, 1956

Construction of High Pressure Natural Gas Pipe Line

The Scranton Spring Brook Water Service Company invites sealed proposals for the proposed construction of forty-four (44) miles of twelve (12) inch steel pipe line in Susquehanna, Lackawanna, and Luzerne Counties, Pennsylvania, until 2 P.M. E.S.T., Monday 10 December 1956, at which time they will be opened and read. Proposals may be mailed or delivered to the Offices of the Company at 30 North Franklin Street, Wilkes-Barre, Pennsylvania. Contract Documents and Plans with a return self-addressed envelope may be secured from the Company at the same address, upon receipt of a deposit of $50 for each set.

Rufison Evans
Chairman of the Board and President.

U. S. Government

United States Department of Commerce, Bureau of Public Roads, November 23, 1956. Sealed bids will be received at the Inter-American Highway Office, Bureau of Public Roads, Room 4069, General Services Administration Bldg., Washington 25, D. C. until 2 p.m., e.s.t., January 4, 1957 for the construction of Nicaragua project 8-A on the Inter-American Highway in Nicaragua, consisting of grading, drainage, selected borrow base and other work. The project begins at Sebaco about 60 miles north of Managua and extends north for about 48 miles to Condega. The approximate quantities of the major items of work are: 1,288,000 cubic meters Unclassified Excavation, 590,000 cubic meters Borrow Excavation, 186,000 cubic meters Selected Borrow Base Course, 3100 cubic yards Class A Concrete in Box Culverts, 365,000 lbs. Reinforcing Steel, 15,000 linear feet Nestable, Bituminous Coated Corrugated Metal Culvert Pipe (from 24" to 72"). Bids will be accepted only from United States or Nicaragua firms with a satisfactory record of performance on highway construction in the United States or in Nicaragua. The need for progress payments, where progress payments may legally be made, will not be treated as a handicap in awarding a contract. Plans, specifications, and Proposal Forms are available upon request from the address given above, or at the Inter-American Highway District Office, Bureau of Public Roads, 516 Avenida Roosevelt South, Managua, Nicaragua. C. D. Curtiss, Commissioner.

OFFICIAL PROPOSALS

Bids: December 18, 1956

Contract TA-270.001

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TETERBORO AIRPORT
ADDITIONAL DRAINAGE FOR
RUNWAYS 1-19, 6-24 AND 14-32

Sealed proposals for the construction of sub-drains for runways at Teterboro Airport will be received at the office of the Chief Engineer of The Port of New York Authority, Room 1100, 111 Eighth Avenue, New York 11, N. Y., until 2:30 P.M. on December 18, 1956, at which time said proposals will be opened and read in Room 1108.

Contract documents may be seen at the office of the Engineer of Design of the Authority, Room 1115. Documents will be furnished upon deposit of $30.00 per set for not more than three sets to any one company (each set including one copy of the contract drawings). Additional sets will be furnished upon payment of $30.00 per set, which payment is not returnable. Deposits and payments shall be delivered to the Treasury Department, Room 1001, where a receipt in duplicate will be issued. A copy of the receipt shall be delivered to Room 1115, where the documents will be furnished.

Those who have submitted a bid on the contract will receive a refund of the deposit for each set of documents, not exceeding three, returned within forty days after the opening of proposals. Those who have not submitted a bid will receive a refund of one-half of the deposit for each set of documents, not exceeding three, returned within forty days after the opening of proposals.

THE PORT OF NEW YORK AUTHORITY
Donald V. Lowe, Chairman
New York, November 29, 1956

Bids: January 8, 1957

Construction of Ohio River Interceptor

NOTICE TO CONTRACTORS
LOUISVILLE AND JEFFERSON COUNTY
METROPOLITAN SEWER DISTRICT
OF
JEFFERSON COUNTY, KENTUCKY

Sealed bids for construction of Ohio River Interceptor, Section B in Jefferson County, Ky., will be received at office of Metropolitan Sewer District, 412 W. Market Street, Louisville, Ky., until 12 noon Central Standard Time on Tuesday, January 8, 1957, and read at that time.

Project includes construction of about 4,500 lin. ft. of 8-ft. sewer and appurtenant work. Alternate bids on monolithic concrete semi-elliptical sewer and precast concrete pipe circular sewer are required. Provisions allow, but do not require any construction by tunneling methods.

It is proposed to let five additional contracts in the future on a similar basis, for the continuation of this 8-ft. sewer, except these contracts will require portions or all of the work to be done by tunneling.

Drawings and contract documents may be examined and obtained at above office and examined at office of Metcalf & Eddy, Engineers, 1300 Statler Bldg., Boston 16, Mass.; on and after November 30, 1956; $50 deposit on drawings and documents.

Bid security: $50,000 certified check on a Louisville, Kentucky, or New York City bank payable to the District. Successful bidder must furnish 100% Performance Bond.

LOUISVILLE AND JEFFERSON COUNTY
METROPOLITAN SEWER DISTRICT
LOUIS J. HERRMANN, SR.
Chairman

U. S. Government

Department of Commerce, Bureau of Public Roads, November 16, 1956. SEALED BIDS will be received at the office of the Park Superintendent, Homestead, Florida, until 11:00 A.M., E.S.T., DECEMBER 13, 1956, for Project 1A7-3A1-11A1-11H1, Everglades National Park, Dade County, Florida: Grading, draining, processing oolite rock base, bituminous prime coat and surface treatment, seeding, and other work, on the Park Road from the Paradise Key Road to a point about 11 miles to the west, and about 4 miles of other roads. The approximate quantities of the more important items are: 280,000 cu. yd. Excavation for Borrow, 215,000 sq. yd. Shaping and Compacting Base, 3,500 tons Aggregate for Surface Treatment, 390 cu. yd. Concrete; and 3,200 lin. ft. Concrete Culvert Pipe. Minimum wage rates have been fixed as required by law. Plans, specifications and proposal forms are available upon request at the offices of the Bureau of Public Roads, 1440 Columbia Pike, Arlington, Virginia, and Gatlinburg, Tennessee. H. J. Speiman, Division Engineer.

U. S. Government

DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. DC-4861) will be received at Glendo, Wyoming, until January 3, 1957, for furnishing labor and materials for Fremont Canyon Power Plant and Power Conduit, Glendo Unit, Wyoming, Oregon Trail Division, Missouri River Basin Project. Location near Casper, Wyoming. Principal items are 324,400 cu. yds. excavation; 66,970 cu. yds. concrete; furnishing and installing 850,000 lbs. permanent steel tunnel supports; furnishing and erecting 670,000 lbs. steel for power plant superstructure; and other work. Completion time is by March 15, 1960. For particulars, address Bureau of Reclamation, P. O. Box 127, Glendo, Wyoming; or Building 53, Denver Federal Center, Denver 2, Colorado. W. A. Dexheimer, Commissioner.

EMPLOYMENT OPPORTUNITIES

NATIONAL COVERAGE

The Advertisements in this section include all employment opportunities—executive, management, technical selling, office, skilled, manual, etc.

Positions Vacant
Positions Wanted
Part Time Work

Civil Service Opportunities . . .
Selling Opportunities Wanted
Selling Opportunities Offered

Employment Agencies
Employment Services
Labor Bureaus

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Position Wanted ads are ½ of above.
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Discount of 10% if full payment is made in advance for 4 consecutive insertions.
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Send NEW ADS or inquiries to Classified Adv Div of ENGINEERING NEWS-RECORD, P. O. Box 12, N. Y. 36, N.Y. December 13th Issue Closes December 3rd.

REPLIES (Box No.): Address to office nearest you c/o This publication Classified Adv. Div.
NEW YORK: P. O. Box 12 (36)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

POSITIONS VACANT

Teaching appointments for September, 1957, available at university-associated College of Engineering in field of Civil Engineering. Salary and rank commensurate with experience and academic qualifications. Primary teaching field open as present faculty is flexible; preference, if any, would be in sanitary engineering and allied fields. Suburban location, Middle West, adjacent to large industrial center. P-3268, Engineering News-Record.

City Engineer: Unusual opportunity for graduate Civil Engineer or equivalent with professional license in southern Pennsylvania city. Experience essential in land surveying, street and sewer design and construction and related municipal work. Experience desirable in zoning and subdivision control. No structural design is involved. Would be in charge of Engineering Department, supervise survey crew and draftsmen, and would be expected to meet the public as required. Salary range $7,000 to $8,500 with usual benefits. Permanent non-political position for right man. Send resume of training and experience to: Borough of Chambersburg, 100 South Second Street, Chambersburg, Pa. Attention: J. G. Cree.

Engineers and draftsmen structural for steel and concrete design Public Buildings. Consulting Engineers office. Call or write giving training and experience. Saul Shaw & Co., 24 Commerce St., Newark, N. J.

Wanted: Draftsmen, also Bridge Designers and Highway Designers, preferably with some field experience for major highway and bridge projects. Forward education and experience records along with salary requirements. Brookhart & Tyo, Consulting Engineers, 1729 N. Front Street, Harrisburg, Penna.

Experienced Estimator and Chief Engineer between the ages of 34 and 48 for preparing estimates, pricing, purchasing, expediting, and job management. Permanent position for the right man with Midwest General Contracting firm specializing in industrial, commercial and public works. As this job will be in the capacity of assistant to the president, none but top men need apply. Send complete history, including education, past experience, references, salary expected, and photograph, if available. P-3451, Engineering News-Record.

Structural Engineers—Two to ten years experience on buildings or bridges. Attractive offer with progressive consulting firm. Box 121, Station H, Toledo, Ohio.

POSITIONS VACANT

Draftsmen—Opportunity for growth with a new division of an old, established company. Openings for draftsmen with architectural, structural or mechanical experience. Send complete personal and employment history with compensation requirements. (Chicago location). P-3452, Engineering News-Record.

Designers—Steel, Concrete, Electrical Piping, Air-Cond., Power Plants & Industrial Bldgs. Marbarry Corp., 120 Greenwich St., N.Y.C. Rector 2-3749.

Wanted. Civil Engineering Draftsmen. Ink Tracers, Computers, Land Surveyors. Only well qualified need apply. Give experience record and salary expected in first letter. P-3379, Engineering News-Record.

Carpenter foreman or carpenter superintendent who is qualified to take over 3 highway bridges and complete same. Must be thoroughly familiar with plans and specifications. P-3386, Engineering News-Record.

Wanted: Civil Engineer, registered in New Jersey, at least 10 years experience in road and bridge design and construction. Must have executive ability. State qualifications in full, experience resume, references and salary requirements. Reply to P-3307, Engineering News-Record.

Engineers for municipal and industrial water supply, sewerage and treatment projects. Opportunities for permanent connection with long established firm of consulting engineers in mid-west. Both E.I.T.'s and engineers considered. Full information and references in first letter requested. P-3116, Engineering News-Record.

Teaching appointments in civil engineering department. On Feb. 1, 1957 or earlier. Two more Sept 1, 1957. Salary and rank depend upon qualifications. M.S. degree not required. Apply chmn. Dept. of Civil Engineering, Univ. of Nebr., Lincoln, Nebraska.

Designer-Draftsman. Several positions open in structural, mechanical, or civil engineering in established engineering firm in Florida. Black and Associates, Inc., 700 S. E. 3rd Street, Gainesville, Florida.

Estimator—Senior grade. Minimum seven years experience in supervision and preparation of all types of plant and equipment estimates for petroleum, chemical or allied industries. Capable of figuring to complete costs on all size projects. Reply, Personnel Mgr., Catalytic Construction of Canada, Limited, 600 S. Vidal Street, Sarnia, Ontario, Canada.

Estimator—Able to prepare complete bids for public, commercial and industrial buildings. Top man only. Location Ohio. Submit experience, references and salary desired. P-3477, Engineering News-Record.

(Continued on following page)

HIGHWAY ENGINEERS

Immediate Employment

Starting positions in California's highway expansion program. $436/mo. to start, with first raise after 6 months. Subsequent promotional opportunities to higher level positions. Open to recent college graduates in civil engineering. Write for illustrated booklet: C. S. WARNER, Supervisor, Section E, State Personnel Board, 801 Capitol Avenue, Sacramento 14, California.

STRUCTURAL ENGINEER

Permanent Position in New Orleans for qualified structural engineer

with at least 10 years responsible design experience in commercial and industrial fields and capable of design, directing and checking the work of others. Salary commensurate with education and experience.

Reply in full, giving particulars concerning salary, education, experience, references and availability.

DE LAUREAL & MOSES

Consulting Engineers

201 NOLA BUILDING

NEW ORLEANS, LOUISIANA

ENGINEERS - DESIGNERS - DRAFTSMEN

for work on

BRIDGES AND EXPRESSWAYS

Opportunity for continuous employment in our Louisville, Chicago, Cincinnati or Lansing offices for graduates or engineers with practical backgrounds. Overtime allowance, vacation time and insurance and retirement plan.

Please give detailed personal and experience record, three competent references and salary expected in first letter.

Hazelet & Ertal, Consulting Engineers

COMMERCE BLDG.

LOUISVILLE, KENTUCKY

STRUCTURAL ENGINEER

To head Structural Design Department of medium size architect's office in the Gulf South Area. This office has a varied practice primarily consisting of industrial, commercial, and institutional work, and schools. Excellent, permanent opportunity for right man, with ideal working conditions. Please submit full information in copy, including snapshot if available, to

P-3571 Engineering News-Record

520 N. Michigan Ave., Chicago 11, Ill.

HIGHWAY DESIGN ENGINEERS

Permanent positions for men with degrees and 2 to 5 years' experience or equivalent. Work for old established consulting firm in Harrisburg, Pennsylvania. Excellent living conditions, fully paid retirement, insurance, vacation, holidays, new air-conditioned offices, hospitalization insurance available. Send resume to Modjeski and Masters, Harrisburg, Pennsylvania.

CIVIL ENGINEERS

New positions created in Madison, Wis. Graduate engineer with some experience to begin in Engineering Dept. at about $440 a month. Annual and longevity increases to $545. Office and field work in design and construction of sewer, water, street, sidewalk and curbs. Possession of Engineer-in-Training Certificate required. No residence restrictions for man to begin work. Wisconsin Retirement Fund and Social Security Benefits. Personnel Dept., City Hall, Madison 3, Wis.

HIGHWAY ENGINEERS

DESIGNERS **DRAFTSMEN**

Permanent Positions

Available in Florida and Pennsylvania

Excellent opportunities for advancement

Paid Vacation - Sick Leave - Hospitalization

Write for application forms or send resume

GLACE & GLACE, Inc.

1001 North Front St. Harrisburg, Penna.

Draftsmen, Designers and Engineers

Opportunity available for wide varied experience and advancement in Consulting Sanitary Engineers' office on several large interesting projects. Salary commensurate with experience and ability to assume responsibility. Usual fringe benefits offered relative to hospitalization, group insurance, etc. Location southwestern Ohio. Apply giving name, age, education, experience, and salary—or for an interview.

P-3371, Engineering News-Record

520 N. Michigan Ave., Chicago 11, Ill.

ENGINEER

Civil or mechanical engineering graduate preferred. Practical knowledge of soil mechanics desirable. Excellent opportunity for alert young engineer. Submit complete resume including salary desired.

RAYMOND CONCRETE PILE COMPANY

(Boring Division)

140 Cedar Street New York 6, N. Y.

When Answering

BOX NUMBERS . . .

to expedite the handling of your correspondence and avoid confusion, please do not address a single reply to more than one individual box number. Be sure to address separate replies for each advertisement.

POSITIONS VACANT

(Continued from preceding page)

Experienced owner's representative for construction of industrial plant in Venezuela. Graduate Engineer—knowledge of Spanish—good record. Large, expanding company with opportunity for excellent permanent connection. Send resume to P-3495, Engineering News-Record, 330 West 42nd Street, New York 36, N. Y.

Wanted: Master Mechanic to take complete charge of maintenance shop and stock room. N. E. area. Large concern. State age, training and experience. Good opportunity for right man. P-3522, Engineering News-Record.

Position open for an executive experienced in general contracting to take complete charge of our established, growing branch in South Florida. Must be experienced in the financial end as well as having a general contracting and engineering background. Opportunity for investment if desired. P-3511, Engineering News-Record.

Civil Engineer—Recent Graduate—Municipal Engineering, Road, sewer & drainage design, field inspection and office work. Starting salary $4,500, minimum. January graduates considered. Send resume to W. M. Cronk, Town Hall, Main St., Stratford, Conn.

Civil Engineers designers, draftsmen experience in the design of bridges, buildings, and waterfront structures. Excellent opportunity for advancement in expanding field of prestressed concrete. Write to Freyssinet Company, Inc., 57 William Street, New York City.

Young or middle aged man that desires a permanent position with a progressive construction concern located in the Pittsburgh area. Experience in estimating, and construction management desirable. Write stating full educational, employment, and personal data. Your inquiry will be kept confidential, and answered promptly. P-3559, Engineering News-Record, Classified Advertising Division, P. O. Box 12, New York 36, New York.

Estimator: for Estimating Department in Home Office of large building contractor. Permanent position with opportunity for advancement with aggressive, growing company operating throughout the U. S. Experience in estimating desirable but not essential. Write stating fully education, employment, salary requirements, military status and personal data to Blount Brothers Construction Company, P. O. Box 949, Montgomery, Alabama.

Wanted: Experienced Highway and Architectural Draftsmen, Bridge and Highway Designers for progressive young engineering firm offering usual fringe benefits plus paid insurance and profit sharing. Send resume to Michigan Associates, 221 N. Cedar St., Lansing 29, Michigan.

Civil Engineer, graduate, with some street and sewer layout and/or structures experience, preferred but not required, as assistant to City Engineer in Pennsylvania. City of 20,000 population with up-to-date municipal utilities, including activated sludge sewage treatment plant, water works, modern incinerator. Clean college city with good government. Salary commensurate with education and experience. Send complete resume in first letter to P-3556, Engineering News-Record.

Highway and Structural Engineers. Experienced or recent graduates. Permanent positions with a growing New England firm of established consulting engineers. Starting salary commensurate with qualifications. Submit complete resume including salary desired: P-3572, Engineering News-Record.

EMPLOYMENT SERVICE

Salaried Positions $6,000 to $35,000. We offer the original personal employment service (established 46 years). Procedure of high standards individualized to your personal requirements. Identity covered. Particulars—R. W. Bixby, Inc., 559 Brisbane Bldg., Buffalo 3, N. Y.

POSITIONS WANTED

Salesman, estimator, production man experienced in large scale industrial roofing and sheet metal contracting, wants worth-while connection with growing firm. Can produce profitable sales in volume. Write PW-3430, Engineering News-Record.

Management position wanted in industrial roofing and sheet metal contracting, by highly experienced executive, capable and well-known in the industry. Write PW-3433, Engineering News-Record.

Superintendent, Heavy & Bridge Construction, 19 years experience, bid to completion, $200. PW-3420, Engineering News-Record.

(Continued on page 91)

Plan Your Future with BECHTEL in California on Hydro Electric Power Design

- Work in Los Angeles
- Liberal relocation allowances for you and your family
- Excellent facilities in area for advanced education
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Immediate Openings

Supervising Engineers
Hydraulic
Experience

Engineers
Civil
Hydraulic
Structural
Electrical
Mechanical

Designers
Piping
Electrical
Structural

Men experienced in design of earth-fill or concrete dams, spillways, penstocks and hydro electric power stations are desirable. Allied experience acceptable.

Send resume to
Manager of Employment & Placement
Industrial Relations Division

BECHTEL
Corporation
220 Bush St., San Francisco 4, Calif.

For an immediate personal interview you may phone:
Paul Keating, Plaza 7-4400, New York City
Joe Braddick, Fairfax 3-2461, Houston, Texas
Bill Milligan, Tucker 1549, Los Angeles, Calif.
Don Palmer, Douglas 2-4032, San Francisco, Calif.

HIGHWAY ENGINEERS DESIGNERS DRAFTSMEN

Drainage Engineers

FOR OFFICE WORK IN ST. LOUIS ON HIGHWAYS EXPRESSWAYS AND ASSOCIATED CIVIL WORKS

- *Permanent employment for qualified men*
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Plus Employee Benefit and Retirement Plan, Paid Vacations, Holidays, Sick Leave. Blue Cross available.

PLEASE WRITE FULLY TO OR INQUIRE AT

SVERDRUP & PARCEL ENGINEERING CO.
1134 LOCUST ST. ST. LOUIS 1, MO.

ENGINEERS COME SOUTH!

We have immediate openings for Engineers—Designers—Detailers—Draftsmen — Civil—Highway—Structural — Traffic—Architectural—Mechanical—Electrical. Company-paid hospitalization, life insurance and retirement. 40-hour week. Air-conditioned offices. Salaries $400 to $800, depending on education and experience. Permanent position. Excellent opportunities for advancement. Send complete resume of education and experience with salary requirement to:

PALMER & BAKER, Inc.
P. O. Box 346
MOBILE, ALABAMA

TOP-FLIGHT ENGINEERS DESIGNERS DRAFTSMEN

McKEE has openings for top men to fill important, permanent positions, with excellent prospects for promotion to supervisory, staff and executive posts in our expanding organization.

Our Metals, Refinery and Industrial Divisions offer you wide choice of opportunity to make fullest use of your talents in the design of refineries, blast furnaces, steel, sintering, chemical and industrial plants and their auxiliaries.

Investigate the advantages of top compensation, ideal working conditions, employment security, advancement opportunity and many generous benefits available to you at McKee.

Telephone TOwer 1-2300, Cleveland, Ohio or write to Edward A. Kolner, Arthur G. McKee & Company, 2300 Chester Ave., Cleveland 1, Ohio

Arthur G. McKee & Company
Engineering offices in
CLEVELAND, OHIO • UNION, N.J. • TORONTO, ONT.

MECHANICAL ENGINEER

Engineer with experience in maintenance and equipment engineering desired for the Paper Converting Division of the Rhinelander Paper Company. Experience in the paper industry desirable but not entirely necessary. Age 25 to 35. Salary open. Address Director of Industrial Relations, Rhinelander Paper Company, Rhinelander, Wisconsin.

ENGINEERS

Designers Detailers Draftsmen
for work on
Bridges, Expressways, Turnpikes

PERMANENT POSITIONS DEPENDING ON EXPERIENCE AND ABILITY
PAID VACATION, SICK LEAVE HOSPITALIZATION, LIFE INSURANCE
INCLUDE EDUCATION, EXPERIENCE, REFERENCES AND SALARY EXPECTED IN APPLICATION LETTER

Howard, Needles, Tammen & Bergendoff
1805 GRAND AVE. KANSAS CITY 8, MO.

ENGINEERS

Long established firm of consulting engineers with world-wide practice needs both beginners and experienced civil, electrical, mechanical, and foundation engineers for interesting work on large dams, power plants, and river control works. Permanent positions. Liberal employee benefits. Starting salaries dependent on qualifications. Please send complete resume to Hugo Niemi, Personnel Manager.

HARZA ENGINEERING CO.
400 W. Madison St. Chicago 6, Ill.

TRAFFIC ENGINEER

Graduate Engineer with at least one year of traffic engineering experience or education. Experience in highway engineering desirable but not necessary.
SALARY: $6500 to $8000
Apply: Malcolm E. Austin
CLARKESON ENGINEERING CO., INC.
285 Columbus Ave. Boston 16, Mass.

ENGINEERS DESIGNERS DRAFTSMEN

Opportunity in

BATON ROUGE, LOUISIANA

A long established firm of consulting engineers needs experienced engineers, designers and draftsmen for a wide variety of industrial and municipal projects—petroleum refineries, petro-chemical plants and power plants

Top Salaries

Liberal relocation allowance

Excellent facilities in area for advanced education

Advancement based on merit

Opportunities in diversified types of engineering and drafting

Contact with latest technological developments

Air-conditioned modern offices.

IMMEDIATE OPENINGS

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Squad Leaders
Designers

ELECTRICAL

Designers
Draftsmen

MECHANICAL

Instrument Application Engineers
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Send resume' to

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For your family:

Excellent climate, good housing for rent or purchase, short drive to office. Good schools including a Junior College. Fine churches and sociable neighbors. All water sports, year-round golfing and fishing. Easy drive to mountains or beaches.

For you:

1. An opportunity to perform professional grade work on designing interesting projects.
2. Enjoy professional associations at local meetings of NSPE, ASCE, ASME, AIEE.
3. Proper recognitions for accomplishments and professional activity.
4. Get things done on a team of doers.

Positions:

Associate Engineers, Engineers and Senior Engineers in Structural, Sanitary, Highway, Mechanical and Electrical Departments. There are currently no field positions available.

Experience:

Engineering degree equivalent plus a a minimum of 3 years progressive experience in designing bridges, highways, sewerage and water works, equipment layout and piping systems, industrial buildings, electrical power and lighting systems or defense facilities.

For prompt results *provide:*

1. Educational background.
2. Chronological list of employers.
3. Details of design experience.
4. References who know your engineering ability.
5. Salary requirements and past salary record.
6. Date for interview at our expense.

PATCHEN AND ZIMMERMAN, ENGINEERS

AUGUSTA, GEORGIA

ENGINEERS

Key positions open for experienced Engineers to be in responsible charge of individual projects with excellent opportunities for advancement.

CIVIL OR SANITARY ENGINEER to Design Sewage Treatment Plants and Sewage Works.

STRUCTURAL DESIGNERS experienced in Concrete and Steel Design of Sewage Treatment, Water Treatment Plants, or the design of Hydraulic Structures in connection with Dams.

SOILS ENGINEER experienced in Slip Circle Analysis Method for Design of Earth Dams.

TRAFFIC ENGINEER experienced in O. and D. and Parking Surveys and Analysis of Data.

Also key positions for:

HYDRAULIC ENGINEER experienced in Earth and Concrete Dam Design.

CIVIL OR SANITARY ENGINEER as Principal Assistant in Design.

Ideal living conditions. Vacations and sick leave, Bonus, Insurance and Retirement Benefits.

Send complete resume to—

GANNETT FLEMING CORDDRY & CARPENTER, INC.

P. O. Box 366 Harrisburg, Pennsylvania

BECHTEL

AREA ENGINEERS
SENIOR ENGINEERS

Foreign Employment
Saudi Arabia

Field Engineers with refinery or related construction experience.

Office Engineers with heavy industrial construction experience on planning, estimating, costs, material takeoff, scheduling.

No Family Housing

Send resume to:
Manager of Employment & Placement
Industrial Relations Division

BECHTEL
Engineers and Builders for Industry
220 Bush Street
San Francisco 4, California

Quantity Surveyor and Draftsman

Permanent position with well established company of mason contractors. Give age, education, experience and initial salary expected in first letter.

P-3311, Engineering News-Record
520 N. Michigan Ave., Chicago 6, Ill.

Engineers Architects

Highway Designers—Draftsmen
Rochester & Harrisburg, Pa., Jackson, Miss. & Ft. Lauderdale, Fla.

Bridge Designers—Draftsmen
Harrisburg, Pa.-College Park, Md.-Ft. Lauderdale, Fla., Jackson, Miss.

Architectural Designers—Draftsmen
Rochester, Pa.

Civil Engineering Draftsmen
Jackson, Miss.

Ink Tracers—Computors
Rochester, Pa., Jackson, Miss.

Air Mail Resume TO R. L. SHAW, *Personnel Director*

MICHAEL BAKER, Jr., INC.

BAKER BLDG. *Consulting Engineers* ROCHESTER, PA.

ENGINEERS

Are you worth up to

$10,000 A YEAR?

Important permanent positions, paying from $6,500 to $10,000 a year with unusual future opportunity, have been created by the expansion program of our large, long-established engineering and construction firm. We need qualified engineers, designers and draftsmen experienced in structural, concrete, mechanical and piping design. Engineering offices are in several major American cities and Canada. Excellent working conditions. Generous company benefits. Our employees know of this ad.

Investigate this opportunity. Write today, giving age, education and experience. Your inquiry will be kept strictly confidential and will be answered promptly.

P-3067, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

POSITIONS WANTED

(Continued from page 88)

Graduate registered professional civil engineer, experienced commercial and industrial building estimator, age 40, married, desires connection with general contractor. Middle West preferred. Available immediately. State location of work, salary range possible, other conditions, in first letter. PW-3541, Engineering News-Record.

Pract. Engineer, German, 40; studies mining England-Germany; 18 years Southamerica, bi-lingual; experience surveys, hydrographic, irrigation, floodcontrol studies, dredging, office work, Government reports; proven administrative ability; good organizer, liaison man for new companies; currently employed jr.-exec. capacity Venezuela; available soon; seeks position of responsibility; preferably South America, with perspectives for career and higher-echelon training. PW-3519, Engineering News-Record.

Bldg. Const. Eng. B.S. experienced 23, single, leaving Air Force. PW-3478, Engineering News-Record.

Civil (Const) Engineer, Registered, age 30, 7 yrs. experience in design, survey, field management, planning and administration on diversified projects. Desires midwest. PW-3490, Engineering News-Record.

Res. Engr.-Proj. Engr.-Proj. Mangr. BSCE, 32, Diversified supervisory design & const. exp. in sewer & water systems and treatment plants, utilities, subdivisions; large scale maintenance. West U. S. preferred. Resume & ref. on request. PW-3473, Engineering News-Record.

Construction Executive or engineer 25 years experience on heavy industrial construction, at home & abroad, mostly in oil refineries, highways, rubber & TNT plants & factory type buildings. Seek a permanent connection, location immaterial. PW-3425, Engineering News-Record.

Civil Engineer, 36, Literate, Registered. Industrial, sanitary, hydraulic, structural design and inspection background. Prefer San Francisco Bay Area. Have office. PW-3573, Engineering News-Record.

Project Engineer, 37, registered N. Y., completing 4 years with A-E on European air bases. Experienced in office administration, and foundation, road, water, drainage and POL design and construction. Seeks permanent administrative position with future possibilities in direction. Location preferred in southern U. S. or South America. PW-3568, Engineering News-Record.

Superintendent—25 yrs. practical experience, business-engineering background for Highway construction & or allied operations. PW-3580, Engineering News-Record.

Construction Accountant 39, 20 Yrs. exp. field & office. Will re-locate. PW-3570, Engineering News-Record.

Civil Engineer; M. ASCE; P. E.; 51; 24 yrs. experience including responsible charge of the design of large irrigation works, design of concrete buildings, heavy construction experience, and 3½ years in Latin America. Desires foreign assignment, preferably Latin America, but domestic position will be considered. PW-3581, Engineering News-Record.

Construction Superintendent; 25 years experience, field supervision, constructing Industrial, commercial, institutional, bldgs., large scale housing, churches, etc; desires similar position with reliable organization; will travel. PW-3574, Engineering News-Record.

Contract Administrator-Construction Management Engineer To Industry, Major Contractors or to Establishments making construction or Development loans. 15 yrs. 20 yrs experience on multimillion dollar construction projects. Complete knowledge of Government, bank and investor relations. Experienced International Supervision Project and Job Management, analysis and surveys, labor relations, construction financing, heavy equipment. Negotiation Of Contracts. BSCE with graduate study in structural and mechanical. Specializing in port and harbor developments, multiple-purpose Dams, airfields, chemical and food processing plants. Membership in leading professional engineering and technical societies. Presently active in Latin America, and Carribean area, including Puerto Rico and Virgin Islands. PW-3591. Engineering News-Record.

Civil-Engineer Experiences all phases Industrial, Commercial, Shopping Centers. PW-3588, Engineering News-Record.

CE and Attorney—2 years experience design and construction; 3 years experience real estate, insurance & taxes. PW-3587, Engineering News-Record.

SEARCHLIGHT SECTION

REPLIES (Box No.): Address to office nearest you c/o This publication Classified Adv. Div.
NEW YORK: P. O. Box 12 (36)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

SPECIAL SERVICE

Contract Disputes? Government construction contractors who have contract questions under dispute are offered my experience in the settlement or the appeal of said disputes. SS-2433, Engineering News-Record.

BUSINESS OPPORTUNITIES

Opportunity for manufacturers of concrete pipe and concrete products. Ideal location—15 acres—in North Jersey served by two railroad lines. Source of supply adjacent to property will lease or arrange terms. Passaic Crushed Stone Co. Inc. Bloomingdale, N. J.

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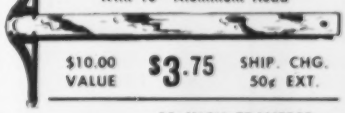
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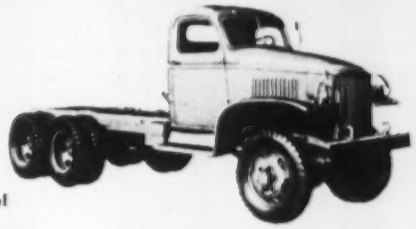

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Answer to Bid-Shopping?

Protagonists in the long, bitter battle over bid-shopping in the United States should look across the border to the North. There a group representing the Canadian Construction Association may have found an answer—one that can be worked out within the industry, without resort to federal or local law.

Sadly enough, the evils of bid-shopping seem to be universal: The general contractor who tries to squeeze extra profits by forcing down sub-bidders; the equally reprehensible practice of sub-bidders cutting each others' (and often their own) throats by underbidding their own best judgment to keep someone else out of the job.

In Canada, CCA—a somewhat unusual organization in that it includes all facets of the industry in its membership—set up a committee to study the problem. The committee has come up with an answer, unanimously endorsed: Bid depositories.

The idea of a bid depository isn't particularly new, and may even sound a bit complicated. But it works, says CCA, in such major centers as Toronto, Vancouver and Calgary. It works this way:

The depository itself is usually a Builders' Exchange, but may be a trust agent. Use of the depository is specified by the architect in his "instructions to bidders," and the architect also specifies the time and date by which all mechanical, electrical and other sub-trade bids must be submitted for consideration.

The subcontractors then submit their bids in separate envelopes: One for the information of the depository; one for the architect; and one for each of the general contractors to whom they are quoting. All of these envelopes are sealed and time-stamped by the depository, receipts given to the bidders. Late bids are refused.

Immediately after the specified closing time, the envelopes for the architects and the general contractors are mailed out, the depository copy placed in a safe. The general contractors then figure in the sub-bids, and submit their own bids within a few days.

With this system, a positive record of the bids is available to the architect and the depository at all times, and the possibility of "shopping" after award of the general contract is virtually nil. A record of the actual amounts of the sub-bids is available for checking—though it is not made public.

Such a solution, however modified to suit local conditions, seems far more sensible than the so far fruitless efforts to put through a federal law requiring that the mechanical sub-trades bid separately from the general contractors on government work. Such a law—as witness experience in New York State and others—generally means mountainous paperwork and difficult supervision, while its benefits to the general public are at least debatable. And certainly the kind of recrimination that has occupied a good segment of construction over the past several years—in battling for or against such a law—is bad for the business, and bad for the impression it makes on the public.

It seems that the answer must be something more reasonable than such extremes, and something—such as the Canadian idea—that can be worked out within the construction industry itself.

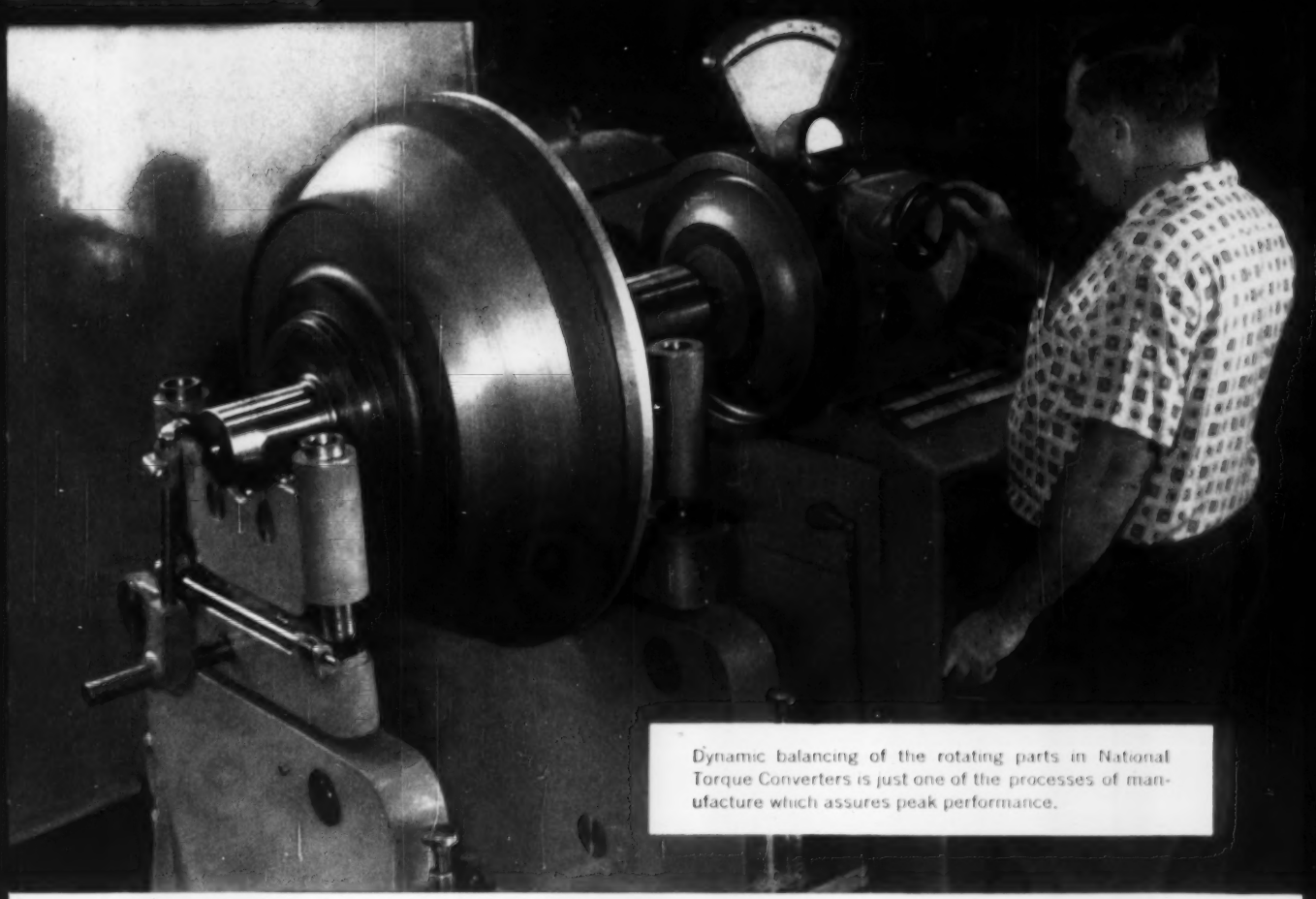
More Than a Show

When The Road Show, which the American Road Builders Association and the Construction Industry Manufacturers Association will sponsor at Chicago, Jan. 28–Feb. 2, opens its doors, the vista will stretch far beyond the immediate exhibition halls. For, far and away in every direction, counterparts of the machines in the foreground can be pictured digging, hauling, lifting and discharging as ribbons of pavement take shape to form a truly national network of modern highways. The picture, too, will be one of a newly powered construction industry geared to discharge a responsibility that it asked for and promised to assume.

For the civil engineer and the construction man, the vista is one of a future of great opportunity and commanding challenges—a new era of service and an era of new dimension in the tasks to be performed. All this was foreshadowed by the passage of the Highway Act of 1956, which committed the federal government to spend $27.7 billion over the next 13 years as 90% of the cost of a new 41,000-mile interstate highway net. Added to state and local road expenditures, this new federal aid will change highway construction from a $5 billion a year industry to a $7 billion one. And the only way this can be done is to mechanize further already highly mechanized operations. The Road Show will show the way.

In keeping with the needs and the prospects, this great construction machinery pageant will be the biggest ever, housed in the world's biggest indoor space, with more than 250 exhibitors who will spend an estimated $8 million on their displays. The construction industry is thus offered an unparalled opportunity to see, examine and buy the machines, the materials and the supplies, which will assure our highways being the best the world has ever seen. The show will also constitute a proud display to the world of what the construction industry can do. For the great machines, which will form the main attraction, are all built with the single purpose of answering with mechanical muscles the demands of the construction industry for more capacity and better quality of work.

Construction men who attend will have a right to be just as proud as the manufacturers who will take part in the exhibit.



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Dependable heavy-duty performance is engineered and built into National Torque Converters

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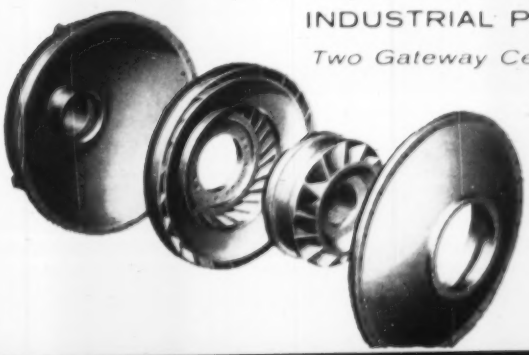


Pace-setters in the progress of industrial power transmission

New tractor-loader has independent track control... *and 56 TIMKEN® bearings*

EIMCO CORPORATION'S 105 tractor-loader is the first crawler type unit that can reverse one tread while the other is still going forward. Result: shorter, faster turns.

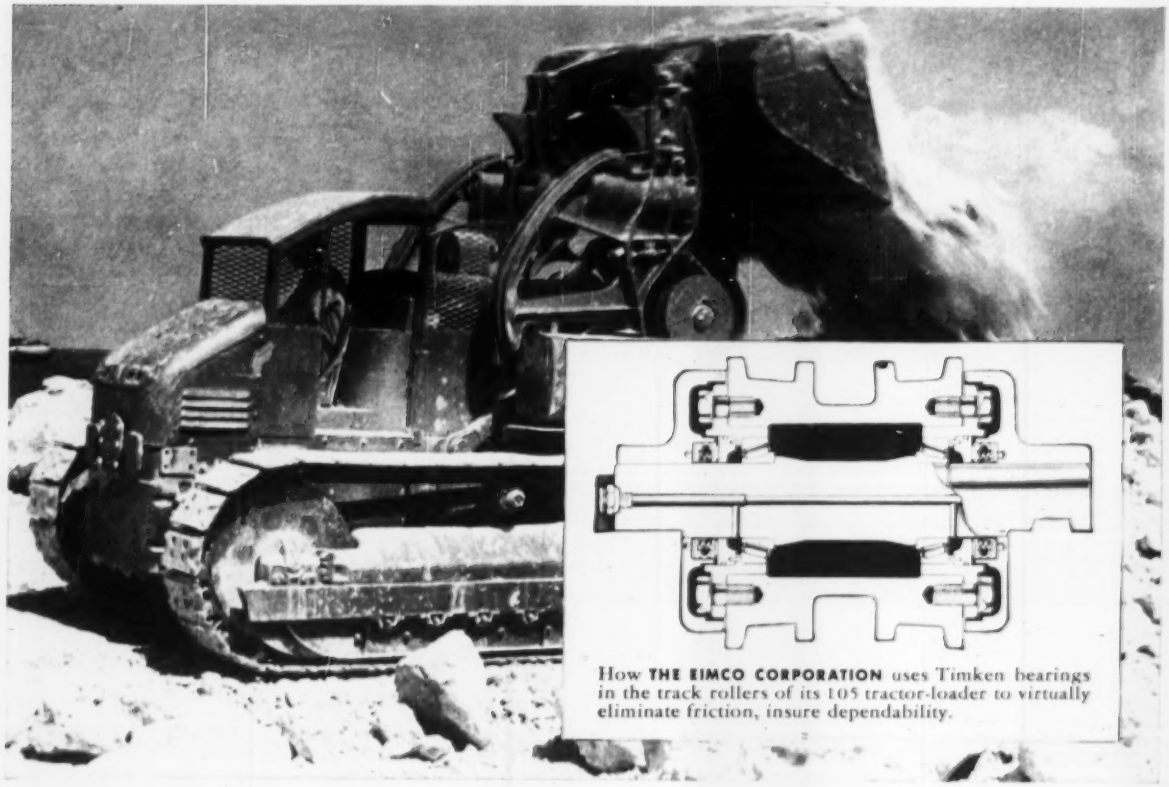
To keep its new tractor-loader on the go, Eimco officials specify Timken® tapered roller bearings at vital points. They're used on the pinion, bevel gear, sprocket, drive and clutch shafts, rollers, idlers and idler sheave—56 of them in all.

The tapered construction of Timken bearings enables them to take any combination of the radial and thrust loads resulting from rough ground and fast maneuvering. And full line contact between their rollers and races gives Timken bearings extra load-carrying capacity.

Friction is practically eliminated, too. Timken bearings are geometrically designed to have true rolling motion and precision manufactured to live up to their design. We even make our own steel to insure quality from beginning to end. We're the only U. S. bearing manufacturer that does.

Get the advantages of Timken bearings in the equipment you build or buy. Look for the trade-mark "Timken" on every bearing. The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ont. Cable address: "TIMROSCO".

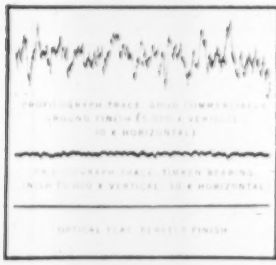
This symbol on a product means its bearings are the best.



How **THE EIMCO CORPORATION** uses Timken bearings in the track rollers of its 105 tractor-loader to virtually eliminate friction, insure dependability.

TIMKEN

TAPERED ROLLER BEARINGS



SMOOTH TO MILLIONTHS OF AN INCH

Surface finish of high quality Timken bearing rollers and races is so smooth that it takes a profilograph to measure its smoothness. This instrument measures surface variations to a millionth of an inch, as shown at the left.

NOT JUST A BALL ○ NOT JUST A ROLLER ○ THE TIMKEN TAPERED ROLLER ○ BEARING TAKES RADIAL ○ AND THRUST ○ LOADS OR ANY COMBINATION